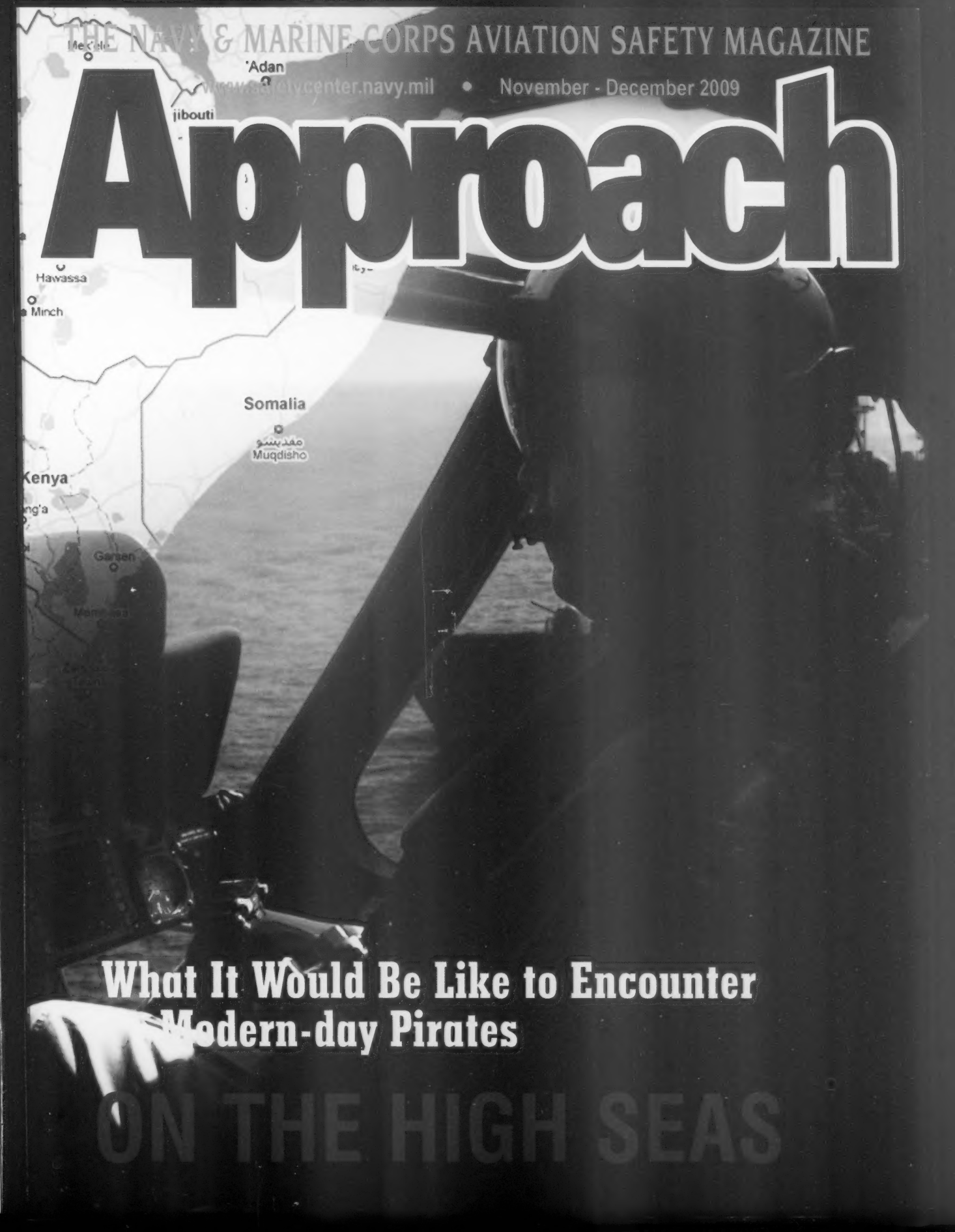
THE NAVY & MARINE CORPS AVIATION SAFETY MAGAZINE
www.safetycenter.navy.mil • November - December 2009

Approach



What It Would Be Like to Encounter Modern-day Pirates

ON THE HIGH SEAS

The Navy & Marine Corps Aviation Safety Magazine
November-December 2009 Volume 54, No. 6
RADM Arthur Johnson Commander, Naval Safety Center
Col. Mark Erb, USMC Deputy Commander
John Mahoney Head, Communications and Marketing
Naval Safety Center (757) 444-3520 (DSN 564) Dial the following extensions any time during the greeting
Publications Fax (757) 444-6791

Approach Staff

Jack Stewart jack.stewart@navy.mil	Editor and Distribution Ext. 7257
Allan Amen allan.amen@navy.mil	Graphics, Design & Layout Ext. 7248
Capt. Ed Langford ed.langford@navy.mil	Aviation Safety Programs Ext. 7225
Kimball Thompson edward.thompson@navy.mil	EA, Aviation Safety Programs Ext. 7226
Cdr. Monte Yarger monte.yarger@navy.mil	Aircraft Operations Division Ext. 7203
Cdr. Allen McCoy allen.mccoy@navy.mil	Aircraft Mishap Investigation Division Ext. 7236
Capt. Nick Davenport nicholas.davenport@navy.mil	Aeromedical Division Ext. 7228
LCdr Vincent "Chico" Garcia vincent.s.garcia@navy.mil	ORM Division Ext. 7266
Cdr. Duke Dietz duke.dietz@navy.mil	Culture Workshop Ext. 7212

Analysts

Cdr. Monte Yarger monte.yarger@navy.mil	NATOPS/WESS Program Manager Ext. 7203
Leslee McPherson leslee.mcpherson@navy.mil	Asst Div Head, WESS, ATC, NEXTGEN, MISREC Ext. 7245
LCdr. Ian Mackinnon ian.mackinnon@navy.mil	C-9/40, C-130, P-3, E-6B, P-8 Ext. 7272
LCdr. Jeff Padgett jeffrey.j.padgett@navy.mil	C-12/20/26/35/37, T-5, T-44 Ext. 7142
Maj. Scott "Atis" Nicholsen, USMC scott.nicholsen@navy.mil	AV-8B, F-35, NVD, JSSC, F-16, F-5, T-38 Ext. 7216
Lt. Brian "Band Camp" Abbott brian.j.abbott@navy.mil	E-2, C-2, UAS, MFOQA Ext. 7274
LCdr. Jason "Grease" Domzal jason.domzal@navy.mil	EA-6B, T-2, T-6, T-34, T-39, T-44, T-45 Ext. 7224
Lt. Cody "Milkbone" Hitchcock cody.hitchcock@navy.mil	FA-18A-G, EA-18G, ARSAG Ext. 7208
LtCol. Kevin "Hopper" Conroy, USMC kevin.conroy1@navy.mil	Marine Liaison, MV-22, CH-53D/E, NVD Ext. 7209
Maj. Jason Levy, USMC jason.a.levy@navy.mil	CH-46E, U/AH-1, TH-57 Ext. 7206
Lt. Otto "Hulka" Cochran Sidney.cochran@navy.mil	H-60, MH-53E Ext. 7207
Lt. Roy Stanley reynaldo.stanley@navy.mil	Facilities Branch, Fuels, CFR/ARFF, BASH Ext. 7281
ABCM (AW/SW) Lance Hands lance.hands@navy.mil	ALRE/Air Terminal Ext. 7279
ACC Brian Soper brian.soper@navy.mil	ATC Ext. 7282
All Analysts safe-code11@navy.mil	All Ext. 7811

Mishaps cost time and resources. They take our Sailors, Marines and civilian employees away from their units and workplaces and put them in hospitals, wheelchairs and coffins. Mishaps ruin equipment and weapons. They diminish our readiness. This magazine's goal is to help make sure that personnel can devote their time and energy to the mission. We believe there is only one way to do any task: the way that follows the rules and takes precautions against hazards. Combat is hazardous; the time to learn to do a job right is before combat starts.

Approach (ISSN 1094-0405) is published bimonthly by Commander, Naval Safety Center, and is an authorized publication for members of the Department of Defense. Contents are not necessarily the official views of, or endorsed by, the U.S. Government, the Department of Defense, or the U.S. Navy. Photos and artwork are representative and do not necessarily show the people or equipment discussed. We reserve the right to edit all manuscripts. Reference to commercial products does not imply Navy endorsement. Unless otherwise stated, material in this magazine may be reprinted without permission; please credit the magazine and author. *Approach* is available for sale by the Superintendent of Documents, P.O. Box 979050, St Louis, MO 63197-9000. Telephone credit card orders can be made 8 a.m. to 4 p.m. Eastern time at (866) 512-1800. Periodicals postage paid at Norfolk, Va., and additional mailing offices.

Postmaster: Send address changes to *Approach*, Code 71B
Naval Safety Center, 375 A Street
Norfolk, VA 23511-4399

Send articles and letters to the address above, or via e-mail to the editor, jack.stewart@navy.mil.

CONTENTS

Features

Focus on Piracy

What would it be like to encounter modern-day pirates on the high seas? Keeping maritime traffic safe is a challenge for the aircrew and ship team.

3. **Across the Bow**
By Lt. Matthew Woods
An HSL-42 aircrew encounters pirates and takes action to stop them. A search of the pirates' skiff produced an assortment of armaments.

4. and 8. Lt. David Kiser shares his encounter and thoughts in two sidebars.

6. **We're Breaking Off**
By Lt. Todd Urkowitz
Pirates had seized a ship loaded with weapons. Our helo and ship team was tasked with keeping the cargo from reaching the wrong hands.

9. **Under the Tarp**
By Lt. Domenico Monaco
Although their mission was not briefed as anti-piracy, this aircrew quickly got involved. Were they prepared?

10. **Press Release From Commander, U. S. Naval Forces Central Command/5th Fleet**
The press release reinforces the dangers of anti-piracy operations as we strive to create a lawful maritime order and develop security in the maritime environment.

12. **My Quota for the Week**
By Lt. Devin P. Corrigan
Orion prop problems are a result of what's missing.

14. **Miles and Miles of Wire**
By Lt. Jon Lapine, Lt. Charles Ellis, AECS Kevin Edwards and ADC Robert Johnson
The TACAMO mission is cut short when hydraulics takes center stage.

16. **Making a Difference**
By LCdr. Joe Cortopassi
An Air Boss on a LPD provides the assist the aircrew needed.

NTENTS

Photo by MC2 Jason R. Zalasky. Modified.

November-December Thanks

Thanks for helping with this issue...
LCdr. Jeffrey Ketcham, HSL-42
Lt. Mike Yeager, VP-47
Lt. Charles Ellis, VQ-4
LCdr. Brian Graves, VAQ-140
LCdr. Eric Frostad, VFA-86
LCdr. Matt Wilder, VX-9
John Minners, CNATRA
Cdr. Randy Green, CNATRA

Departments

18. **Like Father, Like Son**
By Capt. Zane M. Running, USMC
The lessons learned are the same, only the planes and faces change.

22. **Call the Ball**
By Ltjg. Eli Rosenberger
Paddles gives a major assist as the crew's situational awareness is suspect.

24. **A Journey Below Sea Level**
By Lt. P. L. McKelvey
Dizzy, lightheaded, and headaches—could it be hypoxia?

26. **A Loud Bang and Flying Papers**
By Lt. John Cooke
A flight from the view of an aviator and an aerospace physiologist, who happen to be the same person.

Front cover: Photo composite image by Allan Amen.

2. **The Initial Approach Fix**
Information from our aviation directorate. Helo aircrews flying anti-piracy missions share their stories, putting you up front and on-station. We're also providing an end-of-year aviation-mishap recap, and Grampaw Pettibone promoting safety-award submissions.

20. Best Practices: **A Different Perspective—Amphibious Joint/Coalition Air Operations**
By LCdr. Benjamin Armstrong, Lt. Scott Simpson, Lt. Chris Kendrick and Lt. Stephen Simmons
Aviators aboard USS *Wasp* share their thoughts on coalition operations.

28. **Bravo Zulu**

30. CRM: **I Think We're on Fire!**
By Lt. Conrad Bicknell and Lt. Kevin Cahill
When everything in the jet ceases to be normal, you have to revert to "stem power."

32. **Mishap—Free Milestones**

IBC: **Brownshoes in Action Comix**

On the High Seas

What would it be like to encounter modern-day pirates?

Through the first nine months of 2009, there have been 146 piracy attacks on merchant vessels off the coast of Somalia, with 28 of these attacks being successful. Multinational forces are on patrol and prepared to defend commercial and fishing vessels and to keep the area safe for trade and passage. An integral part of these forces are our aircrews and surface forces patrolling the area.

Aircrews from HSL-42 have flown anti-piracy missions and can describe what it is like to encounter these pirates. In this issue of Approach, we offer several articles written by HSL-42 aircrew that bring you into the aircraft to share their experience on these missions. Their flights put them in harm's way, against a threat with bold intentions and unpredictable actions. Each vessel carrying pirates is a potential threat to the helo crews trying to apprehend them. People and armaments hidden under tarps can turn a seemingly benign scenario into a combat situation. Aircrew also must consider the overall environment. Civilian and military aircraft, combat ships from other countries, and unmanned aerial vehicles (UAVs) complicate the mission. We've included a press release from Commander Fifth Fleet that discusses a specific piracy event earlier this year, and reinforces the dangers of these operations.

The ship and helo team, along with the efforts of multi-national forces, work to actively deter, disrupt and suppress piracy and allow safe passage for all maritime traffic.

Put yourself in the seats of the helo pilots as they approach the pirates and get a sense of their encounters on the high seas.

Summary of FY09 Aviation Mishaps

In FY09, the Navy had 11 Class A flight mishaps, compared to 14 the previous year. This is a good improvement in the rate from last year, as well as the 5- and 10-year averages. However, we lost six people in Navy aviation mishaps both last year and this year. Eight of the 11 mishaps had some kind of human failures.

The Marine Corps had three Class A flight mishaps in FY09, compared to seven the previous year. This is also a good improvement in the rate from last year, as well as the 5- and 10-year averages. However, we lost 7 people in Marine aviation mishaps. Last year, there were no fatalities. All of these mishaps had some kind of human failures.

Grampaw Pettibone Awards

In addition to the end-of-year safety-award nomination packets your command safety team is putting together, don't forget the Grampaw Pettibone Award. Given for excellence in promoting safety through publications, such as *Approach* and *Mech* magazines, the Pettibone awards recognize units and individuals. Also, this is the second year for the media category, given to units and individuals who use digital and media resources to promote aviation safety. The use of videos, websites and presentations are a valuable tool to prevent mishaps, and Grampaw wants to recognize those contributors.

Across the Bow

By Lt. Matthew Woods

It was a little after 3 a.m. in the Gulf of Aden. The sound of an unscheduled flight quarters at that time is enough to jolt anyone out of their sleep. I listened a second time to make sure it was for real. Was there a medevac, a SAR, or maybe a commercial vessel in distress from a pirate attack? All were possibilities, but the latter was most likely.

I was on my helicopter-second-pilot (H2P) deployment and we were embarked on USS *Vella Gulf* (CG-72), supporting the recently established CTF 151 counter-piracy task force.

I tripped over myself in a hurried effort to get on my boots and raced upstairs to the hangar. I quickly was met by our detachment OinC, who said our ship had received a distress signal from a nearby group III merchant ship. They were under attack from suspected Somali pirates. As the alert crew that night, it was inevitable we were to launch.

We soon were airborne en route to the distressed vessel. I sat left seat; our OinC, who was the aircraft commander, was in the right. Two aircrewmen rounded out our crew. Shortly after launch, we received word from our ship that the suspected pirates had broken off their attack and were fleeing to the southwest. Finding the suspect vessel would be difficult. Pirates tend to use small skiffs about 15-to-20-feet long, with one or two outboard motors.

Chop on the water makes it extremely difficult to spot these boats. One possible factor in our favor, however, was they likely would be traveling at high speed, creating a larger visual target. We were on night-vision goggles (NVGs) and eager to spot them. I brought up forward-looking-infrared radar (FLIR) and set up a search pattern that typically would be used for SAR. One of the aircrewmen stared at the radar, while the other scanned the ocean for any glimpse of a man-made object. Time passed, and we knew added minutes worked against us.

As the sun gave hints of morning on the horizon, our initial adrenaline rush had all but worn off. Not finding our target was becoming a reality, but we rallied around

Photo by MCS2 Jason R. Zalasky

Suspected pirates keep their hands in the air as directed by Sailors aboard the guided-missile cruiser USS *Vella Gulf* (CG-72), in the Gulf of Aden.

Our ship, USS *Vella Gulf* (CG-72), just had embarked the CTF 151 staff group in the Gulf of Aden when we got our first call from a vessel in distress. The vessel was approximately 20 miles to the west, and pirates were attempting to hijack it.

USS *Vella Gulf* turned toward the west and increased speed to 25 knots. Once our preflight was complete, we launched. Radar was our primary means to hunt for the pirates, and our aircrewman vigilantly was scanning the surface. The last word we had from the vessel was that the ship's crew had manned the water hoses and had thwarted the pirate's efforts. The pirates were traveling south away from the vessel.

Our aircrewman had a small radar contact that was correlating to the potential pirate's location, so we swiftly turned the aircraft in that direction and increased speed.

The pirates were easy to spot, moving erratically in the water, and creating a large wake. Once we got on top of their boat, they stopped as if they had been caught red-handed. Disappointment showed in their faces. We relayed the information to our ship, and within five minutes, they came on scene, making escape impossible for the pirates. The VBSS team launched and began the process of loading the pirates from their dismal skiffs to *Vella Gulf*. We provided aerial cover and a live FLIR image during the entire operation.

Quick actions of the ship and aircrew resulted in the arrest of seven pirates that day. The mission constantly is changing for the Navy in 5th Fleet, and without the flexibility of our crew, none of this would have occurred. As detachments and ships prepare for deployment, they have to be ready for the unexpected to ensure mission effectiveness—Lt. David Kiser, HSL-42.

the possibility of finding the fleeing skiff. Despite this renewed effort, it still was discouraging when our ship radioed for us to return home.

The aircraft commander turned east to bring us back. Then, one of our aircrewmen saw a small, intermittent radar contact to the south. It was a glimmering possibility for us but still a long shot. These craft nearly are invisible on radar, and it was a good chance we would be chasing a rain cloud. We radioed back that we needed a few more minutes to investigate, then turned and picked up speed.

We soon were in the vicinity of the radar contact. The sun was visible on the horizon, but we could not make out any vessels on the water. This was our last chance to find these guys. Again, it seemed like a search in vain—there was nothing. Despite the disappointment, we knew it was time to head home.

Just before the aircraft commander turned for home, he glanced down to his right. He was quiet for a second, but I could tell something had caught his attention. With disbelief in his voice and an expletive that I won't repeat, he said, "There they are."

We almost had flown right over them. After turning the aircraft, it wasn't hard to see why. The suspect

They were going fast and doing everything they could to avoid us.

pirate skiff was characteristically difficult to see: It was bluish-white in color and left almost no wake.

We radioed back our find and received instructions to stop them. We were a good distance from our ship, and from this range, our ship couldn't run down the pirates. We had burned a considerable amount of fuel, and soon would be up against a bingo. We had to react quickly and decisively.

The aircraft commander brought the helicopter around, and the aircrewmen readied the crew-served M-60D. We positioned the helicopter to try and block the pirates from opening any more distance from the *Vella Gulf*. We thought about the weapons they usually carry and what their reaction to our imposing presence would be. Despite the high chance of them wielding AK-47s, it was the possibility of rocket-propelled grenades (RPGs) that concerned me. To make our intentions known, we would have to be in their weapons engagement zone.

Fortunately, the suspected pirates' intention was to flee, rather than fight, and they immediately jinked their boat behind the aircraft. We maneuvered the helicopter hard in the opposite direction and reset our position in the skiff's path to show them we had no intentions of leaving. For the pirates, it was more of the same, and they continued to weave back and forth, trying to avoid our helicopter. They were going fast and doing everything they could to avoid us. As I peered down at our evaders, I was surprised to see only one, maybe two people. Despite this observation, I knew they had to be our guys. No boat this size comes this far on the open ocean to play cat and mouse with a helicopter.

Our method of interdiction against the suspect vessel was not working. They had no intentions of stopping. We again called our ship and told them of the situation. We received a message back that is very seldom heard. "From CTF 151, warning shots are authorized."

We exchanged glances; we knew what this meant. We were authorized to put live fire down range to make it clear they should stop and comply with our instructions. Again, we maneuvered and put the aircraft into the best position to maximize the use of force, yet make sure the safety of the suspected pirates.

The aircraft commander ordered one aircrewman to open fire with warning shots. Two bursts of well-placed rounds were sent across the nose of the fleeing boat. There was now no question in their minds: We meant business. Their vessel immediately came to a stop.

We orbited the boat and were glad they had decided to comply. Our aircrewman never flinched. He kept them in his sights at all times, in case they decided to fight back. As we watched what we thought were two pirates in the boat, other heads started to pop up. We observed numerous bodies. The final count was nine. Trying to look somewhat inconspicuous, they had tried to conceal themselves under a tarp. It was my guess they now were preparing for the inevitable: They had been caught, and they were going to be taken into custody.

As *Vella Gulf*, accompanied by the guided-missile destroyer USS *Ramage* (DDG-61), appeared over the horizon, the suspected pirates had to have realized their predicament. There would not be large amounts of ransom money in their future. The outcome for them would be very bleak. To add to the mood was a pirate skiff already pulled up on the side of the *Vella Gulf*, a reminder of a suspected pirate bust a week earlier. Maybe they were acquaintances.

The resulting suspected pirate capture was a large success. The ship's visit, board, search, and seizure (VBSS) team quickly took them into custody. A search of their skiff uncovered numerous AK-47s, various side arms, an assortment of RPGs, ladders, and grappling hooks. This scenario easily could have escalated into a fearsome firefight.

We'd had a surreal flight, and one that I soon would not forget. It was a satisfying feeling to know that we had helped bring some calm to the troubled Gulf of Aden.

Lt. Woods flies with HSL 42 Det 1.

We're Breaking

By Lt. Todd Urkowitz

Our deployment was normal, and by normal I mean it was a boring translant and Med crossing filled with only one, less than exciting port visit. After crossing through the Suez, our captain came on the 1MC, telling us about a ship named M/V Faina that had just been captured by pirates. None of this really perked our ears, because we were part of the expeditionary strike group (ESG) heading to the gulf. However, the captain told us we were breaking off from the battle group, and steaming at 30-plus knots for the day and a half journey to take station on the M/V Faina on the southeastern side of Somalia.

He then went into more detail about this Ukrainian flagged ship, explaining it had 19 hostages, one of which, the captain, had died during the capture, and the ship was carrying very sensitive cargo. Their cargo was 33 T-72 Russian-made battle tanks, multiple AAA large-caliber weapons, multiple RPG pods with the grenade tips, and large amounts of small-arms ammunition. All of which was originally headed to Kenya, now with its destination uncertain. Our goal was to make sure these weapons do not find themselves leaving the ship and into the hands of the Somalia based terrorist organization called "Al-Shabaab."

Over the next day, we worked very closely with ship intel to gather as much information about the vessel as possible. Our detachment had received schematics of the ships hull, and the CO deemed that our Hellfire missiles were his No. 1 offensive weapon to use against the aft engine compartment to stop the ship, if indeed the pirates tried to get underway.

Arriving on-station, our SH-60B was fully loaded with: a pack of Hellfire, 1,000 rounds of .50 cal, and all the aircraft-survivability-equipment (ASE) gear to boot. We established a routine flight patrol around the M/V Faina, which was anchored about six miles off the coast and 15 miles south of the beautiful desert oasis town of Hobyo. USS *Vella Gulf* (CG-72) established a two-mile standoff from the ship, and continually made two knot, arching circles around the vessel. During this four-month period, *Vella Gulf* would do multiple health and warfare inspections on the M/V Faina. The pirates would agree to line up the hostages, and allow the ship to come within 300 yards to make sure the hostages were being well treated and fed.

The MV Faina was seized by pirates and forced to proceed to anchorage off the Somali coast. It carried a cargo of Ukrainian T-72 tanks and related military equipment.

Photo by MCS2 Jason R. Zalasky.

Typically, we would fly three bags a day. Our morning patrol consisted of about a 0500 launch with a 0830 recovery, and a double-bag at night from 1700 to 2330. We flew during these hours because the pirates were most active fishing and bringing supplies from the pirate camp to the ship via skiff. During midday the pirates laid mostly dormant from the drug they consumed called "Khat," and the extreme heat.

During our flights, we were tasked with photo reconnaissance with our FLIR, which was broadcasted via datalink to the ship for recording purposes. Our weapon-engagement zone (WEZ) around the Faina was 2,000 yards. The first month or so the pirates did not like us being that close and constantly would point their RPGs at us, as we flew by. They would get on "bridge to bridge" radio and threaten to

Photo by MCS2 Jason R. Zalasky

The crew of the merchant vessel MV Faina stand on the deck after a U.S. Navy request to check on their health and welfare.

A contributing factor that enabled our aircrew to have a safe and effective mission was the intelligence that was gathered before our flights. We would establish weapon-engagement zones for each flight, always keeping the aircraft in a safe environment, based on the threat. Some missions would require photo reconnaissance, and again, we remained safe by sticking with tactics taught within the LAMPS community. When we did have to deviate from the norm, we always ORM'd the mission and used all available resources to be mission-effective.

By being vigilant and always keeping safety as our No. 1 priority, we completed each mission. Our jobs as aircrew require flexibility and the mind-set that plans will change. Our detachment apprehended 16 pirates in the Gulf of Aden, ensured the safety of the hostages onboard the M/V Faina, and allowed the release of the M/V Sirius Star. This deployment was one we initially hadn't planned for; however, we all learned from our experiences and will make sure our community and peers benefit from them—Lt. David Kiser, HSL-42.

shoot us down if we kept getting too close.

Our ship demanded the pirates tell us when they were bringing supplies to and from the ship via skiff, however, they rarely followed the rules. During these flights, we would try to help the ship's lookouts by transiting up and down the beach until we saw the pirates loading up a 14 foot white skiff. We would then follow the skiff and fly overhead to make sure there wasn't anything threatening in the skiff. It took about 10 minutes for these tiny white skiffs to transit to the M/V Faina. Our ship did a great job of monitoring the pirates' movement, constantly keeping track of who was coming and going, and what supplies were loaded and offloaded from the ship.

At mid-deployment, the M/V Sirus Star, a $100 million dollar Saudi Oil tanker was taken hostage by pirates, and they anchored about 25 miles to the south of our position. We did a lot of photo recon and watching movement from their camps to the ship, along with monitoring movement of pirate vehicles on the beach. The Sirius star was only with us for about a month when the owners paid the pirates their ransom via air drop.

Lt. Urkowitz flies with HSL-42 Det 1.

Under the Tarp

By Lt. Domenico Monaco

We had an incredibly beautiful, mid-November day, off the Horn of Africa: nice, white, puffy clouds way up high, at least by helicopter standards. Our crew briefed just after our noon meal, and we had a normal preflight. The mission was search, surveillance, and control (SSC), a routine flight to check and make sure things were normal in our OPAREA. After takeoff, we headed southeast, as we had briefed, to begin our surveillance.

About halfway through the flight, our aircrewman called out a possible radar contact, and we headed in to investigate. As we got closer, I tried to get the forward-looking-infrared-radar (FLIR) camera on her, so we could stay outside the standoff range given for the mission. Initially, I thought the contact was a small fishing vessel. However, as the picture got clearer on my screen, the more I thought something was different with this ship.

We flew down the side of the ship from a distance but couldn't pick out the name. We called the tactical action officer (TAO) of our ship and said the ship had numerous antennas and what looked like satellite dishes. A blue tarp covered most of the bow, and it flapped in the wind. We needed to get closer for better identification. The TAO approved our request to fly within one mile of the vessel. We flew down the starboard side and were able to make out the letters on the bow. We did one more pass on the port side, broke off to our original standoff, and waited for further tasking.

We still thought something odd was going on with the ship. Why would a fishing vessel be decked out with antennas and satellite dishes? We voiced our concerns to the TAO. He agreed with our assessment and asked how close we needed to get to obtain a good FLIR picture, which we could downlink in real time to our ship. Because of the midafternoon heat, our ranges were reduced significantly, so we requested a closer standoff. The TAO approved our request, and we set up behind the vessel. Our plan was to get video of all the antennas and dishes from back to front and see if we could find any people topside.

As we came abeam the stern, we slowed down to about 60 knots. I crept the FLIR picture forward so CIC could get a good look. My scan was inside the aircraft, I moved the FLIR camera. My HAC was on the controls because he had a better view of the ship. The aircrewman in the cabin also took pictures, which would be turned in for review. As the FLIR picture came to the bow and the flapping tarp, a silhouette appeared suddenly, jumping out from underneath the tarp. The person was crouching and moving forward with what appeared to be an AK-47 in his hands.

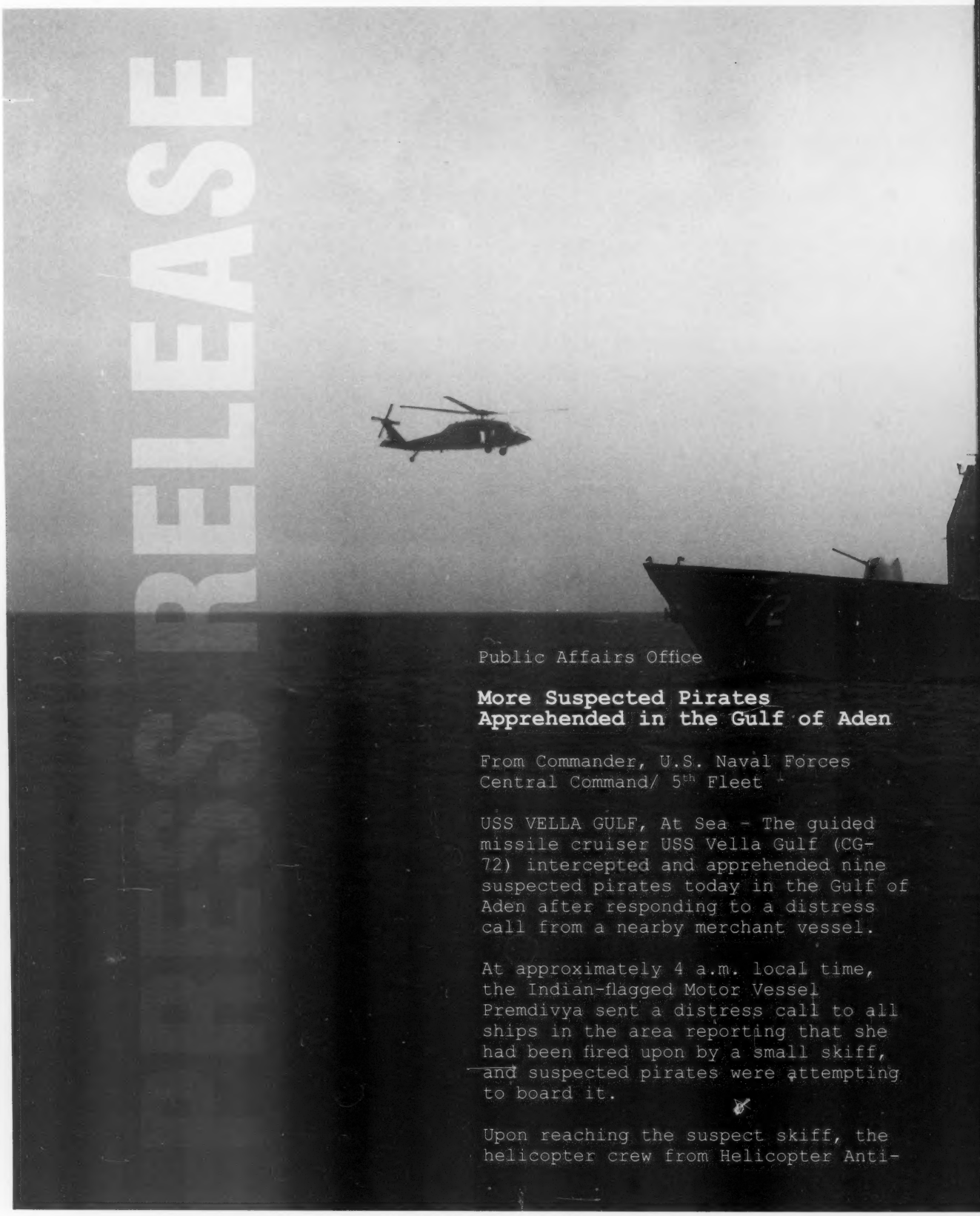
NOT EXPECTING ANYONE ONBOARD to be armed, I called, "Guns, guns, guns." The pilot turned left, accelerated, and jinked outside our original standoff. The aircrewman immediately was on our GAU-16, ready to fire if needed. No shots had been fired, however, and we circled around at a safe distance, while relaying what we just had seen to the folks in combat.

After a few minutes, we were told the ship was a Chinese-flagged vessel that had been pirated the day before. The captain of our ship was on his way to combat to provide us with further guidance, because our ship's mission, at the time, was not counter-piracy. We thanked the TAO for the timeliness of his situation report and entered a holding pattern around the vessel.

Our pictures and FLIR video immediately were sent up to 5th Fleet, and we waited for our next course of action. Because the pirates already were onboard, we could not take action without higher approval. If we had caught them in the act, we immediately could have taken action.

We received word that we were to shadow the ship to a specified point, then let them continue to Mogadishu, their final destination. We did as ordered and, once finished, landed back on ownship. After a thorough debrief and dinner, I went back to my stateroom, turned on the TV, and watched the news—just in case.

Lt. Monaco flies with HSL-42 Det 3.



Public Affairs Office

More Suspected Pirates Apprehended in the Gulf of Aden

From Commander, U.S. Naval Forces Central Command/ 5th Fleet

USS VELLA GULF, At Sea - The guided missile cruiser USS Vella Gulf (CG-72) intercepted and apprehended nine suspected pirates today in the Gulf of Aden after responding to a distress call from a nearby merchant vessel.

At approximately 4 a.m. local time, the Indian-flagged Motor Vessel Premdivya sent a distress call to all ships in the area reporting that she had been fired upon by a small skiff, and suspected pirates were attempting to board it.

Upon reaching the suspect skiff, the helicopter crew from Helicopter Anti-

Photo by MCS2 Jason R. Zalasky. Modified.

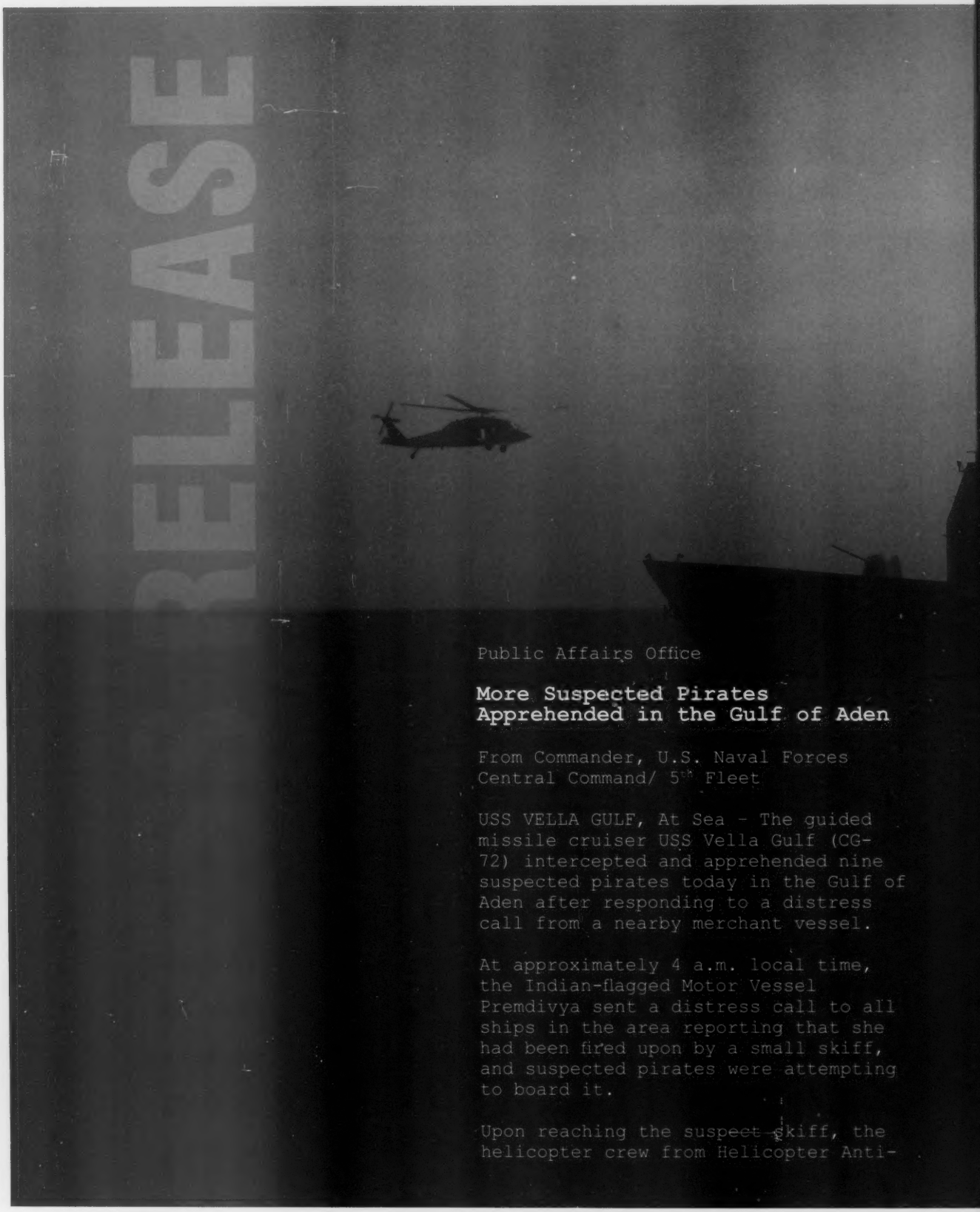
submarine Squadron Light (HSL) 42, embarked aboard Vella Gulf, signaled for the skiff to stop immediately. When the skiff failed to stop, the helicopter fired one warning shot. A second warning shot was fired when the suspects continued to flee.

Once the suspected pirates brought the skiff to a complete stop following the second warning shot, Vella Gulf, and the guided missile destroyer USS Mahan (DDG-72) closed immediately to intercept the skiff. Visit, board, search and seizure (VBSS) teams from both warships conducted a boarding and found weapons, to include one rocket propelled grenade launcher.

The suspected pirates were apprehended and brought on board Vella Gulf, where they were processed and are being held until they are transfered to a temporary holding facility on board the supply ship USNS Lewis and Clark (T-AKE-1). They will remain aboard Lewis and Clark until information and evidence is assembled and evaluated and a decision is made regarding their further transfer.

This is the second apprehension of suspected pirates for Vella Gulf in less than 24 hours. There are currently 16 suspected pirates apprehended by the U.S. Navy.

Vella Gulf is the flagship for CTF 151, which is a multinational task force that conducts counter-piracy operations in and around the Gulf of Aden, Arabian Sea, Indian Ocean and the Red Sea and was established to create a lawful maritime order and develop security in the maritime environment.



Public Affairs Office

More Suspected Pirates Apprehended in the Gulf of Aden

From Commander, U.S. Naval Forces Central Command/ 5th Fleet

USS VELLA GULF, At Sea - The guided missile cruiser USS Vella Gulf (CG-72) intercepted and apprehended nine suspected pirates today in the Gulf of Aden after responding to a distress call from a nearby merchant vessel.

At approximately 4 a.m. local time, the Indian-flagged Motor Vessel Premdivya sent a distress call to all ships in the area reporting that she had been fired upon by a small skiff, and suspected pirates were attempting to board it.

Upon reaching the suspect skiff, the helicopter crew from Helicopter Anti-

submarine Squadron Light (HSL) 42, embarked aboard Vella Gulf, signaled for the skiff to stop immediately. When the skiff failed to stop, the helicopter fired one warning shot. A second warning shot was fired when the suspects continued to flee.

Once the suspected pirates brought the skiff to a complete stop following the second warning shot, Vella Gulf, and the guided missile destroyer USS Mahan (DDG-72) closed immediately to intercept the skiff. Visit, board, search and seizure (VBSS) teams from both warships conducted a boarding and found weapons, to include one rocket propelled grenade launcher.

The suspected pirates were apprehended and brought on board Vella Gulf, where they were processed and are being held until they are transfered to a temporary holding facility on board the supply ship USNS Lewis and Clark (T-AKE-1). They will remain aboard Lewis and Clark until information and evidence is assembled and evaluated and a decision is made regarding their further transfer.

This is the second apprehension of suspected pirates for Vella Gulf in less than 24 hours. There are currently 16 suspected pirates apprehended by the U.S. Navy.

Vella Gulf is the flagship for CTF 151, which is a multinational task force that conducts counter-piracy operations in and around the Gulf of Aden, Arabian Sea, Indian Ocean, and the Red Sea and was established to create a lawful maritime order and develop security in the maritime environment.

My Quota for the Week

By Lt. Devin P. Corrigan

As naval aviators we always are prepared for in-flight malfunctions. Considering I was on my fifth flight as an aircraft commander and had experienced a few, I figured I had met my quota for the week.

The weather in the AOR had been less than desirable for the past few months, and we didn't expect it to get better that night. We had received periodic weather updates during the night, but none of them sounded good. When we finished the mission and headed back, the field metro service reported variable winds with blowing dust, visibility between 1,000 and 2,500 meters (tower was calling 500 meters), and a ceiling of 300 feet broken. Though this report didn't sound encouraging, we had become accustomed during a seven-month deployment never to trust the weather at our forward-deployed location.

A VFR combat arrival that evening would not be an option because of weather. We lowered our landing gear before the initial descent and commenced our approach. As we rolled onto final for the TACAN approach at 12 miles, 290 knots at 6,000 feet AGL, the flight station heard a thump, and the aircraft shook violently. I immediately shallowed our descent, leveled the aircraft at 2,500 feet AGL, and slowed to 200 knots. The vibration decreased slightly, coinciding with a decrease in airspeed. Quickly troubleshooting, I advanced the power levers from 1,500 SHP and noticed the vibration intensified. As I brought back the power levers to

flight idle, the vibration did not decrease noticeably. We determined the vibrations were not coming through the flight controls, power levers, or the engine emergency-shut-down handles.

We initially thought something had fallen from the aircraft but couldn't determine what it might have been. Our thoughts first turned to the landing gear, because they had been lowered just before the vibration started. The landing-gear-position indicator showed the gear were down and locked, and the aft observer reported the gear appeared to be down. The only other item extended on the aircraft around the time of the initial vibration was the AIMS camera turret, so I had the radar operator retract the turret. This action did not affect the intensity of the vibration, and the turret was reextended. The off-duty flight engineer and pilot then inspected the aircraft cabin, looking through the observer windows to determine if any other aircraft part was missing. They reported that everything looked normal, but the vibration in the back of the aircraft was more severe—to the point it was difficult to stand.

...the flight station heard a thump, and the aircraft shook violently.

As we neared the airfield, I slowed the aircraft to prepare for landing. We briefly considered not lowering the flaps but decided the slower airspeed was more desirable. When the flaps were lowered, we felt no change in controllability or the vibration. It felt like I was flying a washing machine with a load out of balance. I began to question if we had an airframe issue and reconsidered if something might be wrong with one of the engines.

I decided not to attempt a landing while evaluating the aircraft's airworthiness, so we passed over the approach end of the runway at 2,500 AGL and called missed approach. The copilot declared an emergency and requested tower to make a visual inspection of the aircraft, but they couldn't because of poor visibility. As we turned outbound for our next approach, we discussed whether to postpone landing until we had diagnosed the problem or to land as soon as possible. With the aircraft at a low altitude, in a threat environment, and with deteriorating weather, I decided to land as soon as possible. Our nearest divert field was 120 miles away, and I didn't want to run the risk of making a bad situation worse. At the same time, the TACCO was relaying our situation and courses of action to maintenance control. Because of their proximity to the prop arc, I moved the TACCO and Nav/Comm from their stations, in case the vibration was engine-related.

We reached our approach minimums but couldn't identify the airfield. I executed a missed approach and set 2,500 SHP, and then, very cautiously, set 3,500 SHP on all four engines. On the next approach, the visibility improved, and I could identify the rabbit lights in plenty of time to land, using land flaps. Our touchdown speed was 127 knots, with no discernable change in the vibration.

On landing rollout, I eased back the power levers into reverse and decelerated, still noting no change in the vibration. I stopped the aircraft about two-thirds down the runway. The flight engineer asked to secure engines No. 1 and 2, because it felt like the vibrations were coming from the port side. I agreed, and he secured the engines. Engine No. 1 was shut down, followed by No. 2 about five seconds later. As soon as No. 2 was secured, the vibration immediately ceased. We radioed tower and requested to taxi back to our ramp, about 200 yards away.

As we pulled into our parking spot, a small crowd of maintenance and emergency personnel waited to assist us. When I came down the boarding ladder, everyone had congregated around the No. 2 engine. One of the blades on the engine had lost its cuff (a piece of rubber and honeycombed aluminum that is part of the de-icing system). When the cuff separated, it hit the cowling door on the No. 1 engine nacelle and left a black mark on the backside of a blade on the No. 1 prop. It almost had caused the No. 1 engine to FOD out. Had it separated in the other direction, it would have hit right behind the TACCO station, possibly causing an explosive decompression.

Losing a blade cuff is an uncommon occurrence and not explicitly covered in NATOPS. We were fortunate to have encountered this situation close to the airfield, instead of during a long transit. Good crew coordination and constant communication with ground personnel helped us to recover in a timely manner, without accepting any unnecessary risk.

Lt. Corrigan flies with VP-47.

Miles

By Lt. Jon Lapine, Lt. Charles Ellis, AECS Kevin Edwards and ADC Robert Johnson

While operating out of NAS Patuxent River in early July, LANT Crew 4 was scheduled for a six-hour TACAMO mission in an OPAREA over the Atlantic Ocean. The 12-person crew consisted of two pilots, two flight engineers (FEs), a seven-person communications crew, and one reel operator. The two-hour preflight went as scheduled, with no discrepancies. Flight planning required a change from an OPAREA to a separate warning area because of multiple cloud layers, precipitation, and a high freezing layer. After a standard crew-safety brief, we took off on-time and headed up the coast, past New York City and Boston, and into W102.

After three hours, we made our way off the coast of Maine. Comm central notified the flight deck we had received message traffic. The aircraft commander initiated the auto-orbit system, orbit-entry checklist. We slowed to wire-extension speed and cleared the reel operator to extend the wires. The off-duty flight engineer assisted the reel operator by monitoring the wires as they left. The on-duty FE took note of the hydraulic quantity, as we continued to reduce airspeed and extend flaps to 20. With the wire extended, we rolled into orbit and completed the checklist.

The first 30 minutes of the orbit was uneventful. With only 10 minutes of orbit remaining, the on-duty FE noted a reduction in hydraulic-fluid quantity by one-fifth of a gallon. The FE notified the aircraft commander of a possible hydraulic leak and continued to monitor the quantity as the orbit continued.

When the message transmission was completed, the aircraft commander initiated the auto-orbit system, orbit-exit checklist. As the aircraft rolled out of the orbit, and the reel operator was cleared to retract the wires, the on-duty FE tapped on the gauge and watched the hydraulic quantity drop by another one-fifth gallon. The aircraft commander initiated the hydraulic-leak-isolation checklist. Once the reel operator was in position to monitor wire retraction, the off-duty FE inspected the aft lower lobe for signs of a hydraulic leak and reported all clear to the flight deck.

The flight crew, noting the leak was slow, performed each step of the leak-isolation checklist slowly and deliberately. We couldn't identify which system had the leak. As we ran back through the restoration portions of the checklist, it often looked as though the leak had stopped and had been isolated to a certain system. However, a light tap on the hydraulic-quantity gauge would show another small loss of fluid.

As the last several thousand feet of wire were retracted, we evaluated the situation and discussed the E-6B's ability to operate independent of its hydraulic system. We determined with hydraulics isolated, the only systems lost during flight were spoilers and leading-edge flaps, while the rudder could be operated manually, and the trailing-edge flaps could be run electrically. We took into account available runway lengths, expected weather, and emergency services required. The on-duty FE ran the most conservative data possible, which covered loss of all hydraulics, to include loss of brakes. In this scenario, we would require a landing distance of 10,800 feet. Patuxent River's 11,800-foot runway was ideal.

With the wires retracted and the orbit-exit checklist complete, the aircraft commander declared the emergency and coordinated with Boston Center to proceed directly to NAS Patuxent. The FE noted, that with the utility and auxiliary system isolated, the leak had stopped, with 5.9 gallons remaining.

systems, and the possibility of aborting the landing if we lost any systems during the approach.

With only 5.6 gallons of hydraulic fluid indicated, we commenced our descent into NAS Patuxent River. We used the normal descent and landing checklists, while keeping open the landing with loss-of-utility and loss-of-

and Miles of Wire

The flight crew continued to discuss all scenarios and came up with a plan to minimize the impact of fluid loss, while maximizing systems used for a full-stop landing. The crew was briefed on the situation. Comm central contacted our forward-operating base to make sure we had all available personnel to assist us once on the ground, especially if we couldn't taxi the aircraft clear of the runway.

TWENTY MINUTES OUT, the aircraft commander called for the fuel-dump checklist. We dumped down to 21,000 pounds of fuel, which would leave us overhead at 18,000 pounds. This amount would be enough if we had to abort the approach and make a second attempt.

Once the checklist was complete, we went into the manual-gear-extension checklist. With the gear extended, we gained another gallon of hydraulic fluid. To minimize possible damage to the gear doors, we brought up the No. 3 utility pump to pressurize the system and to raise the gear doors. Noting a very small loss in hydraulic quantity, we pressurized the auxiliary system to power the rudder and inboard spoilers. We extended the flaps and watched the hydraulic quantity drop by its normal amount.

We discussed the approach while holding at 6,000 feet over WETUT, the initial approach fix (IAF) for the RNAV (GPS) runway 06. Because the field was VMC, the aircraft commander briefed a lower-than-normal approach to the field, so we could touch down within the first 1,000 feet and maximize the runway length. Before descending for the IAF, the crew discussed the checklists we'd completed, the expected operational

auxiliary checklists. The FE closely monitored hydraulic-system operation, as we kept both systems powered. The descent and landing were uneventful, and we came to a complete stop at the 6 board. The aircraft commander coordinated with tower to remain on the runway, which allowed the reel operator to install the T-handle and prevent the nose gear from collapsing when hydraulic pressure was removed. No drop occurred in pressure in either system, and we continued to taxi clear of the runway and back to our parking spot.

Once in the chocks, the off-duty FE disembarked to do a postflight inspection. He immediately saw a large hydraulic leak in the starboard wheelwell. Gear pins were installed, and hydraulics were secured. The FEs and ground crew found a leak in the flex line associated with the No. 2 auxiliary-return filter. After replacing the line, the maintainers found that the flex line had been chafing against a rigid hydraulic line, causing the rigid line also to leak. This situation explained why the loss of fluid was difficult to isolate to a specific system, as two different lines were leaking.

Through regular, quarterly training in the simulator and annual CRM and instrument ground schools, the pilots and flight engineers coordinated, delegated and reviewed all applicable checklists. We remained calm and organized, proceeding only when everyone was up-to-speed and ready to move on. As a flight crew, we used this as a learning experience in exercising crew-resource management and discussed ways to improve.

Lt. Jon Lapine, Lt. Charles Ellis, AECS Kevin Edwards and ADC Robert Johnson fly with VQ-4.

Making a Difference

By LCdr. Joe Cortopassi

As many of you well know, being out of the cockpit on a disassociated sea tour leaves pilots longing to be back in the cockpit, doing what the Navy and the American taxpayers paid and trained them to do. Every time I set flight quarters and hear a boatswain's mate's call on the 1MC, I wish I was the one strapping in to launch.

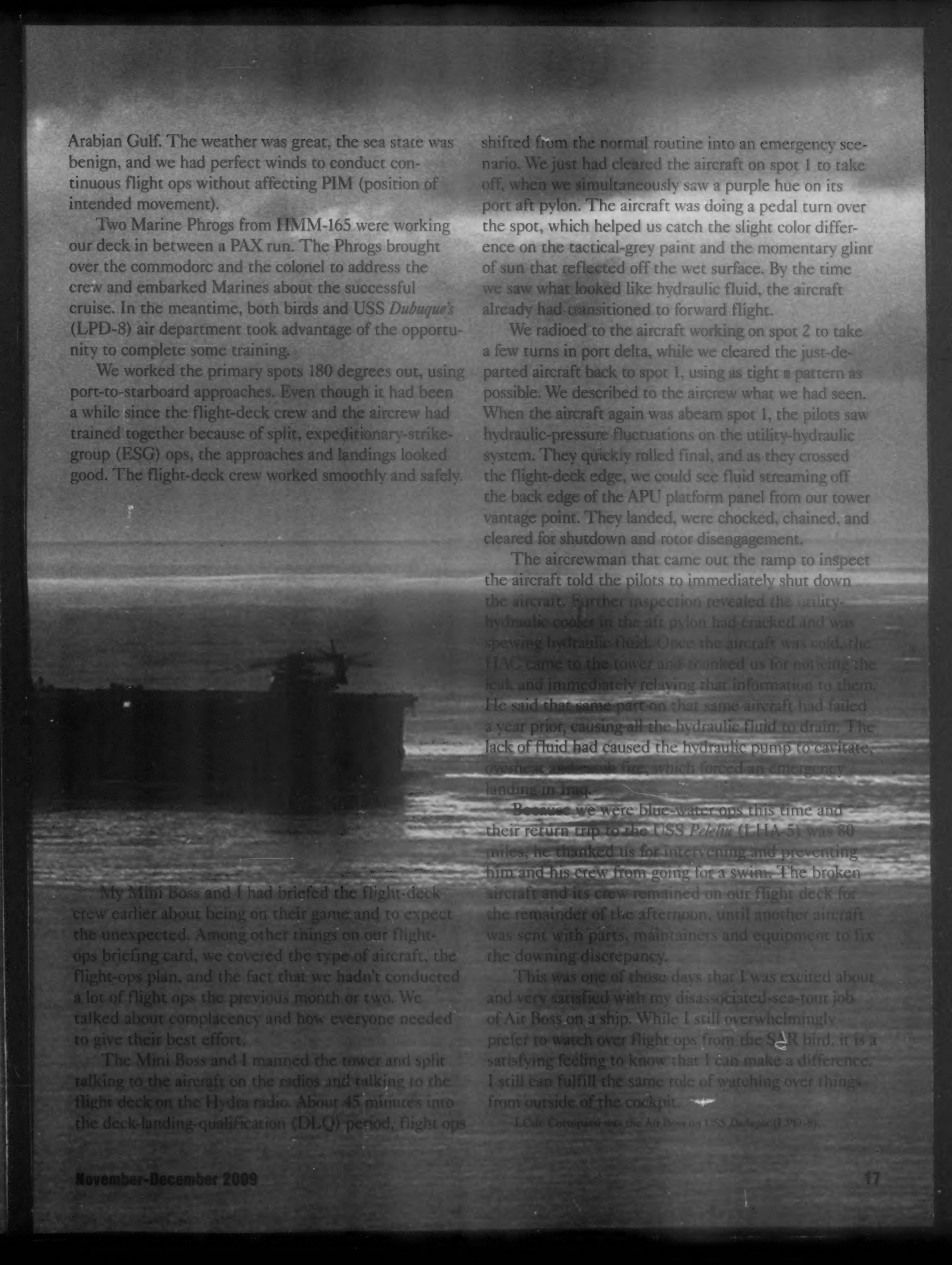
For me, it's more than just the thrill of flight. It's the opportunity to take out a multimillion-dollar aircraft as the aircraft commander, make decisions, and get a job done. As a helicopter pilot, I can make a difference in an individual's life on a SAR or medevac mission. Normally, these types of opportunities arise for helicopter pilots while flying. However, I never expected to potentially save lives while manning a tower.

We were transiting the Gulf of Oman, heading back to San Diego after a successful deployment to the

Arabian Gulf. The weather was great, the sea state was benign, and we had perfect winds to conduct continuous flight ops without affecting PIM (position of intended movement).

Two Marine Phrogs from HMM-165 were working our deck in between a PAX run. The Phrogs brought over the commodore and the colonel to address the crew and embarked Marines about the successful cruise. In the meantime, both birds and USS *Dubuque's* (LPD-8) air department took advantage of the opportunity to complete some training.

We worked the primary spots 180 degrees out, using port-to-starboard approaches. Even though it had been a while since the flight-deck crew and the aircrew had trained together because of split, expeditionary-strike-group (ESG) ops, the approaches and landings looked good. The flight-deck crew worked smoothly and safely.



My Mini Boss and I had briefed the flight-deck crew earlier about being on their game and to expect the unexpected. Among other things on our flight-ops briefing card, we covered the type of aircraft, the flight-ops plan, and the fact that we hadn't conducted a lot of flight ops the previous month or two. We talked about complacency and how everyone needed to give their best effort.

The Mini Boss and I manned the tower and split talking to the aircraft on the radios and talking to the flight deck on the Hydra radio. About 45 minutes into the deck-landing-qualification (DLQ) period, flight ops shifted from the normal routine into an emergency scenario. We just had cleared the aircraft on spot 1 to take off, when we simultaneously saw a purple hue on its port aft pylon. The aircraft was doing a pedal turn over the spot, which helped us catch the slight color difference on the tactical-grey paint and the momentary glint of sun that reflected off the wet surface. By the time we saw what looked like hydraulic fluid, the aircraft already had transitioned to forward flight.

We radioed to the aircraft working on spot 2 to take a few turns in port delta, while we cleared the just-departed aircraft back to spot 1, using as tight a pattern as possible. We described to the aircrew what we had seen. When the aircraft again was abeam spot 1, the pilots saw hydraulic-pressure fluctuations on the utility-hydraulic system. They quickly rolled final, and as they crossed the flight-deck edge, we could see fluid streaming off the back edge of the APU platform panel from our tower vantage point. They landed, were chocked, chained, and cleared for shutdown and rotor disengagement.

The aircrewman that came out the ramp to inspect the aircraft told the pilots to immediately shut down the aircraft. Further inspection revealed the utility-hydraulic cooler in the aft pylon had cracked and was spewing hydraulic fluid. Once the aircraft was cold, the HAC came to the tower and thanked us for noticing the leak and immediately relaying that information to them. He said that same part on that same aircraft had failed a year prior, causing all the hydraulic fluid to drain. The lack of fluid had caused the hydraulic pump to cavitate, overheat and catch fire, which forced an emergency landing in Iraq.

Because we were blue-water ops this time and their return trip to the USS *Peleliu* (LHA-5) was 80 miles, he thanked us for intervening and preventing him and his crew from going for a swim. The broken aircraft and its crew remained on our flight deck for the remainder of the afternoon, until another aircraft was sent with parts, maintainers and equipment to fix the downing discrepancy.

This was one of those days that I was excited about and very satisfied with my disassociated-sea-tour job of Air Boss on a ship. While I still overwhelmingly prefer to watch over flight ops from the SAR bird, it is a satisfying feeling to know that I can make a difference. I still can fulfill the same role of watching over things from outside of the cockpit.

LCdr. Compassi was the Air Boss on USS *Dubuque* (LPD-8).

a Difference

By LCdr. Joe Cortopassi

As many of you well know, being out of the cockpit on a disassociated sea tour leaves pilots longing to be back in the cockpit, doing what the Navy and the American taxpayers paid and trained them to do. Every time I set flight quarters and hear a boatswain's mate's call on the 1MC, I wish I was the one strapping in to launch.

For me, it's more than just the thrill of flight. It's the opportunity to take out a multimillion-dollar aircraft as the aircraft commander, make decisions, and get a job done. As a helicopter pilot, I can make a difference in an individual's life on a SAR or medevac mission. Normally, these types of opportunities arise for helicopter pilots while flying. However, I never expected to potentially save lives while manning a tower.

We were transiting the Gulf of Oman, heading back to San Diego after a successful deployment to the

Arabian Gulf. The weather was great, the sea state was benign, and we had perfect winds to conduct continuous flight ops without affecting PIM (position of intended movement).

Two Marine Phrogs from HMM-165 were working our deck in between a PAX run. The Phrogs brought over the commodore and the colonel to address the crew and embarked Marines about the successful cruise. In the meantime, both birds and USS *Dubuque's* (LPD-8) air department took advantage of the opportunity to complete some training.

We worked the primary spots 180 degrees out, using port-to-starboard approaches. Even though it had been a while since the flight-deck crew and the aircrew had trained together because of split, expeditionary-strike-group (ESG) ops, the approaches and landings looked good. The flight-deck crew worked smoothly and safely.

My Mini Boss and I had briefed the flight-deck crew earlier about being on their game and to expect the unexpected. Among other things on our flight-ops briefing card, we covered the type of aircraft, the flight-ops plan, and the fact that we hadn't conducted a lot of flight ops the previous month or two. We talked about complacency and how everyone needed to give their best effort.

The Mini Boss and I manned the tower and split talking to the aircraft on the radios and talking to the flight deck on the Hydra radio. About 45 minutes into the deck-landing-qualification (DLQ) period, flight ops shifted from the normal routine into an emergency scenario. We just had cleared the aircraft on spot 1 to take off, when we simultaneously saw a purple hue on its port aft pylon. The aircraft was doing a pedal turn over the spot, which helped us catch the slight color difference on the tactical-grey paint and the momentary glint of sun that reflected off the wet surface. By the time we saw what looked like hydraulic fluid, the aircraft already had transitioned to forward flight.

We radioed to the aircraft working on spot 2 to take a few turns in port delta, while we cleared the just-departed aircraft back to spot 1, using as tight a pattern as possible. We described to the aircrew what we had seen. When the aircraft again was abeam spot 1, the pilots saw hydraulic-pressure fluctuations on the utility-hydraulic system. They quickly rolled final, and as they crossed the flight-deck edge, we could see fluid streaming off the back edge of the APU platform panel from our tower vantage point. They landed, were chocked, chained, and cleared for shutdown and rotor disengagement.

The aircrewman that came out the ramp to inspect the aircraft told the pilots to immediately shut down the aircraft. Further inspection revealed the utility-hydraulic cooler in the aft pylon had cracked and was spewing hydraulic fluid. Once the aircraft was cold, the HAC came to the tower and thanked us for noticing the leak and immediately relaying that information to them. He said that same part on that same aircraft had failed a year prior, causing all the hydraulic fluid to drain. The lack of fluid had caused the hydraulic pump to cavitate, overheat and catch fire, which forced an emergency landing in Iraq.

Because we were blue-water ops this time and their return trip to the USS *Peleliu* (LHA-5) was 80 miles, he thanked us for intervening and preventing him and his crew from going for a swim. The broken aircraft and its crew remained on our flight deck for the remainder of the afternoon, until another aircraft was sent with parts, maintainers and equipment to fix the downing discrepancy.

This was one of those days that I was excited about and very satisfied with my disassociated-sea-tour job of Air Boss on a ship. While I still overwhelmingly prefer to watch over flight ops from the SAR bird, it is a satisfying feeling to know that I can make a difference. I still can fulfill the same role of watching over things from outside of the cockpit.

LCdr. Cortopassi was the Air Boss on USS *Dubuque* (LPD-8).

Like Father, Like Son

By Capt. Zane M. Running, USMC

"The year was 1989," began my dad (a captain in the Marine Corps). "I was Dash 2 in the second division of a six-plane flight of AV-8Bs somewhere over the San Bernardino Mountains in Southern California. The mission was complete, or so I thought. It had been a great training mission. Six instructors had gotten their once-a-year instructor tactical-proficiency-update flight at the end of a three-week detachment from VMAT-203.

"The flight had departed Yuma with a rare weapons load for instructors in a training squadron. We had four live Mk-83 Snake Eyes each. As the mission and weapons planner, I had spent a few long days working on the details. In addition to the fun of the mission, we also took a lot of satisfaction in knowing that, after a trip to a tanker then a long low-level VR route, our flight had delivered six AV-8s on-time and on-target in the R2507 N target complex, known as Chocolate Mountains.

"We had joined-up in two divisions of Vs in trail, one-mile spread, 10,000 feet AGL, 320 knots, and talking to SoCal approach for VFR monitors to RTB at NAS Miramar. The weather was clear, but we were flying into a setting sun. All the adrenalin produced from the challenges of the training portion of the mission had left my brain. After all, the mission was over. I could fly to Miramar and land in my sleep, right? Wrong. Approach control called no altitude, read-out traffic. Nobody in lead division saw any traffic, and my attention was somewhere else from where it should have been: in front of the jet.

"Suddenly, I was looking at a rear aspect of a white, single-engine, high-wing, light civil aircraft at such close range that I had no reaction time. However, I managed to pass close above and behind him. No one else saw the light civil aircraft; I don't think he saw me. The old saying that it's not over until you are in the chocks was foremost on my mind the rest of that RTB."

Little did I know the lessons dad learned from that mission would have an impact on a flight of my own 20 years later. I was Dash 2 copilot in the second section of a four-plane flight of CH-46Es, in practically the same location as my dad had been. We were on our way home to Camp Pendleton after a successful support mission in Twentynine Palms. The day had begun with an early Monday morning brief. We had a relatively simple, yet important mission: The lead section was to transport the assistant commandant of the Marine Corps to various training sites. My section supported a ground unit with reinforcements and provided resupply to numerous high-altitude outposts and retransmission sites around the Marine Corps air-ground combat center (MCAGCC), Twentynine Palms.

The plan had gone smoothly, and my section had an uneventful transit to Twentynine Palms. We landed on four different mountain sites throughout the day, and each one presented different challenges. After finding a spot for our Phrogs to land, we'd jump out, help the crew chiefs and Marines load or unload. We'd also do a quick, yet thorough, load computation to figure out how to spread out the Marines and gear. Then we'd do a map study of the route to be flown to the next checkpoint. After five hours, we were all ready to get home.

By the time I heard the lead section switch to Longrifle (Camp Pendleton's range control), my attention was no longer on the flight. After all, I could fly from the Temecula Valley to Camp Pendleton in my sleep, right? Wrong. We were about three rotors from lead, 130 knots, and 3,500 feet MSL (minimum altitude over Temecula Valley). The weather was unlimited visibility,

with clear skies, but we were headed west in the afternoon—into the sun.

Just as I reduced collective to descend into Camp Pendleton airspace, a high-wing, white, civil aircraft (sounds familiar) seemingly appeared out of nowhere. Before I could pull collective to climb, the Cessna passed about 50 feet below us, going in the opposite direction. Between the four pilots and four crew chiefs in the section, none of us saw the traffic before it nearly was too late.

This brief incident has taught me the same thing my dad learned years ago: Fly the mission from chock to chock. In aviation, the situation can change from one second to the next. When you are dropping bombs in a Harrier, or landing on a small mountain top while high, hot and heavy in a Phrog, it's easy to stay focused and be ready for anything. It's the times between the exciting ones where human error is most prevalent. We must stay vigilant throughout the flight. Fatigue and complacency always seem to be two common traits in aviation mishaps, and they could have been a causal factor in my dad's scenario, as well as my own. Learn from those that have gone before you.

Capt. Running flies with HMM-364.

Little did I know the lessons dad learned from that mission would have an impact on a flight of my own 20 years later.

Photo Composite

A Different Perspective—
Amphibious Joint/Coalition Air Operations

By LCdr. Benjamin Armstrong, Lt. Scott Simpson, Lt. Chris Kendrick and Lt. Stephen Simmons

The second aircraft of the Army section had waved off, and primary flight control (PriFly) had called for the bird over spot five to climb and wave off. The Chinook climbed back into the Charlie pattern and the Mini-Boss began a calm and steady brief over the radio on flight-deck procedures. Both aircraft were brought aboard, chocked, and chained. An impromptu face-to-face brief was held with a pilot from each aircraft. They were the best of the best and caught on fast once training was provided. The rest of the night was a varsity evolution: day-into-night flight ops, with a moving deck, followed by night-vision-goggle (NVG) ops, with four giant MH-47s. Everything went smoothly and safely.

The scene was eerily familiar as the MH-47 Chinook descended on short final to spot five. A tandem-rotor helicopter, making an approach that just was a little too low to the edge of a flight deck, with the deck-edge coaming and safety nets appearing to reach out for the mainmounts.

During a crew-resource-management (CRM) or operational-risk-management (ORM) class, every helicopter pilot has seen the video from the tragic CH-46 mishap aboard USNS Pecos (T-AO 197), when the helo caught its mainmount in the nets and flipped backward into the water. From flight-deck control, the handler's heart rate quickened as he contacted his LSEs. On deck, the yellowshirts signaled for the pilot to climb and to pedal-turn to get his gear away from the nets. But the giant Boeing helicopter only moved forward and aft, still on the angled line-up line, wheels hovering only inches from the steel safety nets.

The air- and safety-department officers aboard USS *Wasp (LHD-1)* recently had completed tours as instructor pilots in all stages of the Navy's flight-training program. The high skill of the joint-service pilots operating with us that night was a given. After a quick but thorough brief, the rest of the night's evolution came off without a hitch. However, everyone came to the same conclusion: *Wasp's* joint partners had not received the proper brief.

The following recommendations come from the *Wasp's* air and safety departments after conducting operations with joint units and coalition partners from our international allies.

Training Materials

Before operations with joint/coalition partners, make sure proper training materials are provided to the aviation units. *Joint Publication 3-04.1: Joint Tactics Techniques and Procedures for Shipboard Helicopter Operations* is a solid foundation for the joint-shipboard process. However, a copy of the LHA/LHD NATOPS also should be required training material. As the operators manual for conducting flight operations, the NATOPS manual

is the key reference for any questions inbound pilots might have.

When an amphib knows in advance they will be working with joint/coalition partners, we suggest preparing training aids specific to the ship. These aids could be in the form of a PowerPoint briefing or video presentation and should include a summary of procedures and ship-specific SOP training.

Items to highlight include: naval terminology (port, starboard, bow, stern), standard shipboard radio

communications, LSE signals, anticipated approach procedures and flight patterns, and emergency procedures. These training aids should be transmitted to the inbound unit as early as possible. If time and funding permit, a face-to-face briefing should be completed in the planning stages of the evolution, well before aircraft arrive aboard the ship.

FDLPs

Team *Wasp* encourages the use of field-deck-landing practice (FDLPs) by units unfamiliar with operations aboard ships. Each coast has a number of FDLP-capable facilities, including the LHA/LHD spots at MCAS New River, N.C., the outboard runway at the NAS Norfolk, Va. heliport, or NAF Imperial Beach, Calif. Coordination is required with the responsible organizations, but practice approaches in a benign environment ashore significantly would improve procedural knowledge and comfort level.

First Approach

An aircrew's first approach to the ship, whether an initial qualification or a return to the ship after a long period, is challenging. It is even harder for joint warriors and coalition partners who have little to no experience. Scan pattern, visual references, and altitudes/airspeeds must be adjusted from overland operations to the shipboard environment. A first approach of joint/coalition aircraft should be a straight-in approach to the stern, with clearance to the appropriate spot, rather than the typical "Gator slide."

Once the aircraft is chocked and chained, a face-to-face brief between aircraft commander and a ship's company naval aviator should be conducted to briefly review procedures and answer any questions before flying the deck-landing-qualification (DLQ) pattern. Preferably, a disassociated-tour aviator with experience as an instructor pilot will be used. The information gleaned from this brief will raise comfort levels on both sides and can be passed by the pilot to his crew.

Training Coordination

Prior coordination of the specific training events is key to ensuring a smooth evolution. Transit to the beach requires coordination with the ship's operations and navigation team, because it requires staying closer to shore. Joint planners must make sure the ship knows the pilot's intentions.

During flight operations, PriFly coordinates the flight schedule. Without knowledge of each aircraft's specific training needs, the officers manning the tower still must make decisions regarding the start of NVG operations, deck spotting, and an aircraft's position in the pattern. This situation inevitably will slow the evolution, which can cause frustration, impatience, and other crew-resource-management challenges.

Operations with joint-service partners or coalition partners are an important part of the capabilities of the Navy's amphibious fleet. The sea-basing capabilities of LHAs and LHDs are a unique and important part of executing *The Cooperative Strategy for 21st Century Seapower*. Amphibious-assault ships need to plan for these operations, and be prepared for the increased hazards they entail. Proper use of risk-abatement techniques, notably through training and encouraging realistic shore-based practices, will make sure joint and coalition operations are safe and effective, adding to the combat power of the amphibious fleet.

The authors are naval aviators serving aboard USS *Wasp*. LCdr. Armstrong is the safety officer, Lt. Simpson is the mini-boss, Lt. Kendrick is handler and Lt. Simmons is the hangar officer.

Call the Ball

You're never done until you're back in the ready room, especially on a place as dangerous as the flight deck of an aircraft carrier.

By Ltjg. Eli Rosenberger

Fungun 52, side number AG503, was an EA-6B returning from a mission supporting Operation Enduring Freedom. I was a nugget ECMO 1, and, somehow, the scheds-O had snuck in an all-JO crew for this combat mission.

We were ending our first month in the North Arabian Sea, and I was getting into the groove of flying missions. After four hours of turning circles over Afghanistan, we were happy to be heading back to the ship in time for a night trap and a late dinner in the wardroom. Little did we know that, after being airborne six hours, the last 15 minutes of the flight would be the most eventful.

Our TACAN had failed after launch, so when I checked in with marshal, I asked for vectors overhead the ship. One of the great additions to the ICAP III Prowler is Link 16, so we did have situational awareness (SA) as to the ship's position, which would play a crucial part later that night. After checking in with departure, we were directed to descend to 6,000 feet. Apparently, departure was not told we had no TACAN because they

told us to hold behind mom at 10 DME. I told them of our status, and they gave us vectors. This situation was my first without TACAN at night, and being a nugget, my SA bucket began to fill.

Once the recovery started, things began to come at us fast and furious. The pilot's ICS began to cut out; it worked about 50 percent of the time. We could communicate but not easily. Departure gave us a descent and vectors to downwind, then a switch to approach control.

I THEN REALIZED I NO LONGER COULD TRANSMIT on any of our radios. The pilot tried to transmit but discovered he also wasn't going out on the radios. Our ICS was having issues (uncommanded built-in-test, or BIT, associated with this particular panel), but at least we still could receive on all our radios. Our troubleshooting of the ICS was unsuccessful in getting the front-seat radios working.

ECMO 3 stepped in and talked with approach. ECMO 2 got into the mix by giving us DME and rough azimuth to the ship, using the CVN's Link-16 track. I was so behind the jet I barely was holding on to the stab.

Approach told us to dirty-up and have the pilot put down the gear and flap handles. The gear didn't move, and the IPI (windows that show the status of gear and flaps) indicated our landing gear was up and locked. We also had no secondary indications of our gear moving. The night quickly went from bad to worse.

My mind began racing through our long and messy "Landing Gear Handle Down Indicates Unsafe" checklist when our pilot used Occam's razor to determine his next course of action. Partly from curiosity and partly from frustration, he recycled the gear handle up and slammed it down harder than his previous attempt. The gear moved and indicated three-down-and-locked.

With ECMO 3 in the back seat as our voice, approach set us up on a 10-mile final. Keeping with the theme of the night, we had no ICLS. This info was duly relayed by ECMO 1 to ECMO 3 for transmission to approach. ECMO 2 continued to help us with DME calls. At six miles, the ship tried to lock us up with ACLS and asked us to call our needles—no needles. The call was relayed to approach by ECMO 3, and we were told to fly ICLS until lock-on. ECMO 3 again relayed that we were negative bull's-eye. Approach should have degraded us to a PAR, but they only provided intermittent DME. ECMO 2 picked up for approach's shortcomings by continuing to relay DME to the front seat.

At three DME, as called by ECMO 2, we began our descent into the blackness. With almost no clues to keep us on track, we were well right of course. The long-range lineup (laser lineup) is great if you are paying attention. With all the issues we were having, our SA was so low we didn't see the flashing green light indicating we were well right of course. Paddles saved us by pulling us out of right field. The pilot yelled to me that he had the ball, and I relayed to ECMO 3, who made the best ball call ever from the back seat. Paddles didn't know the difference. The pilot caught the 2-wire.

We were thrilled to be on deck. We thought the shenanigans had ended, but we still had one last experience to top off the night. As we taxied out of the LA and were directed just forward of Elevator 1, a tug was attached to push us back. After pushing the plane back, the tug detached. This event normally wouldn't have been a problem, but our director was out of sight under the nose, and our pilot never received the signal we were detached and being "chocked and chained." The parking brake wasn't set. We rolled forward about six feet before we realized our predicament. Fortunately, the ship was listing to port, not starboard, or our wheels would've gotten up-close-and-personal with the scupper. We were chocked, chained and finally shut down. We were grateful to be done with that flight.

This was, by far, my most eventful night at the ship, and it taught me a few things. The first went all the way back to the brief. Prowler crews have a standard CRM portion of the NATOPS brief, but it obviously doesn't cover situations like we had. The basic framework of our brief was a useful starting point, but the flexibility and skill of the crew allowed us to adapt to the situation. Apparently, all those CRM classes work.

No matter how uneventful a mission is, you can't become complacent. You're never done until you're back in the ready room, especially on a place as dangerous as the flight deck of an aircraft carrier. Along with complacency on every mission is complacency with our systems. Because our Prowlers have six different radios, I never considered actually being NORDO, but after that night, I looked long and hard at NORDO procedures.

Finally, I learned that you have to use all the tools available to you—when things start going wrong, it may make all the difference.

Ltjg. Rosenberger flies with VAQ-140.

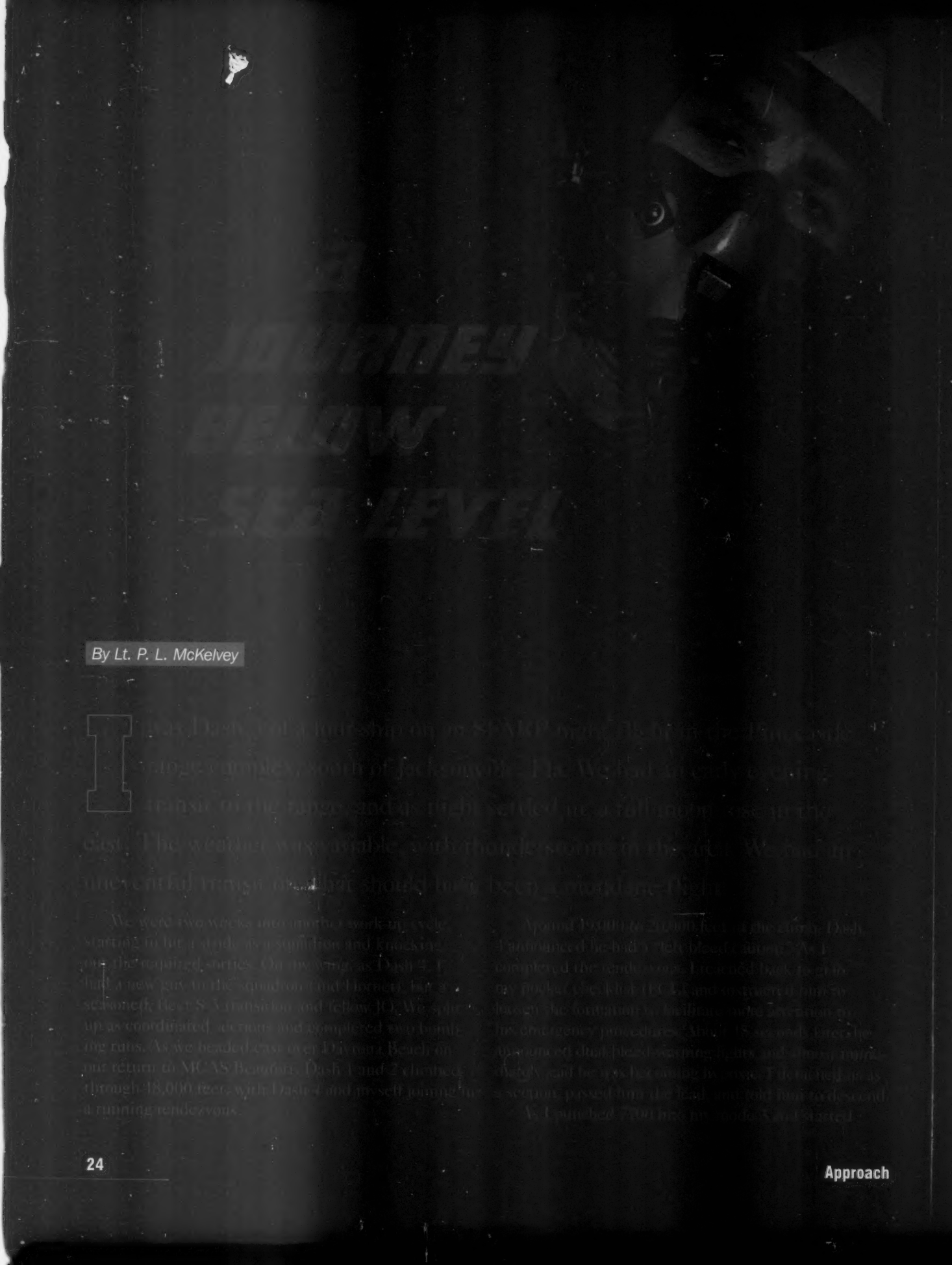
A JOURNEY BELOW SEA LEVEL

I was Dash 3 of a four-ship on an SFARP night flight in the Pinecastle range complex, south of Jacksonville, Fla. We had an early evening transit to the range, and as night settled in, a full moon rose in the east. The weather was variable, with thunderstorms in the area. We had an uneventful transit on what should have been a mundane flight.

We were two weeks into another work-up cycle, starting to hit a stride as a squadron and knocking out the required sorties. On my wing, as Dash 4, I had a new guy to the squadron (and Hornet), but a seasoned, fleet S-3 transition and fellow JO. We split up as coordinated sections and completed two bombing runs. As we headed east over Daytona Beach on our return to MCAS Beaufort, Dash 1 and 2 climbed through 18,000 feet, with Dash 4 and myself joining in a running rendezvous.

Around 19,000 to 20,000 feet in the climb, Dash 4 announced he had a "left bleed caution." As I completed the rendezvous, I reached back to grab my pocket checklist (PCL) and instructed him to loosen the formation to facilitate more attention to his emergency procedures. About 15 seconds later, he announced dual-bleed-warning lights and almost immediately said he was becoming hypoxic. I detached us as a section, passed him the lead, and told him to descend.

As I punched 7700 into my mode 3 and started



By Lt. P. L. McKelvey

My main concern was his rapid maneuvering and the possibility of gravity-induced loss of consciousness (GLOC) with his current condition.

squawking, I established comms with Jax Center and declared an emergency. As this occurred, Dash 4 aggressively maneuvered in a hard pull to put NAS Jacksonville on the nose and said his hypoxia symptoms were becoming severe. I asked him to double-check that he had pulled his emergency-oxygen green ring and that the oxygen flow knob was off, and to check the status of his bleed-air system. He was nonresponsive at first but continued to maneuver his jet. I asked again, and he verified all steps were complete, and he was receiving emergency oxygen. Again I asked him to check that the green ring was pulled and the flow knob was off, which he verified.

As we descended, I updated Jax Center on our emergency and asked for radar vectors direct to NAS Jacksonville. Dash 4 continued to accelerate and maneuver. I instructed him to slow down, calm down, level his wings, and bring up his nose a little. We rapidly passed through 10,000 feet at more than 400 knots, with him still weaving left and right chasing headings. My main concern was his rapid maneuvering and the possibility of gravity-induced loss of consciousness (GLOC) with his current condition. He reduced power and slowly leveled off, with his comms fairly coherent. From the time he initially announced his hypoxia to this point was less than a minute.

AS I COORDINATED WITH JAX CENTER, I kept my comm flow going with him to assess his condition. He said he was feeling worse and had pain in his chest. I asked him to verify once again that his mask was on and that his green ring was pulled; again he confirmed. While keeping a running dialog, I told him that he was demonstrating classic symptoms of hypoxia. My main focus was to keep comm going and to reassure him what he was experiencing was to be expected, and not to deviate from procedure by pulling off his mask. As we pressed on, info was passed to Jax Center with respect to fuel and souls on board.

I asked for the duty runway and for them to coordinate, as well as to have emergency crews standing by. At about 35 miles south of NAS Jax, I had Dash 4 start a slow decent. Twenty miles south of the field, he announced he was out of oxygen and had to take off his mask. Again, I asked him to double-check that his bleeds were secure. We had worked our way down to 3,500 feet. At 10 miles, I asked center for the tower frequency and permission to switch. Dash 4 had sight of the field and was setting up for a straight-in to runway 27. As he set up on final, he kept drifting low on glide slope, and I asked him once more to verify he felt OK to land; he responded with a double-click and an increase in power as he came up on glide slope. At 500 feet, I leveled off and maintained a position for him to join up if he went around. He got the jet stopped and cleared the runway.

After we were out of the jets, we filled out the required transient paperwork and put the jets to bed for the night. During the walk from the transient line to base ops, Dash 4 started to get a little queasy and really dizzy. His chest pain grew heavier, and he was breathing hard. During a phone call to base, the ODO recommended that he go to the hospital and get checked out.

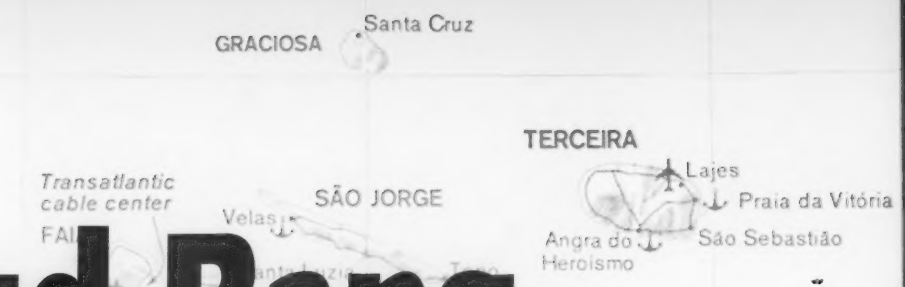
As Dash 4 waited for the duty driver, his symptoms got worse and more pronounced. The dizziness, lightheadedness and headache increased, and he started to get the chills. He went to the ER and was diagnosed with type II decompression sickness. After CT and X-rays, he was briefed and put into the hyperbaric chamber for six hours. He emerged with no further symptoms.

With a lot of education and training, we had a successful outcome to what could have been a disaster. A new wingman to the squadron, knowing NATOPS and boldface, and being decisive was key.

As our jets continue to age, things will continue to break. The Hornet community has been plagued for years with OBOGS and hypoxia events, several of which have led to the loss of friends and squadronmates. In this case, having the education on the ground through *Approach* articles, hazreps, ROBD simulator training, and the experience of others, definitely contributed to a successful outcome.

The speed at which he immediately was hypoxic and how bad it got was frightening. Shouldn't he have started to feel better right away when on emergency O2? It seems counterintuitive that one actually would get worse before getting better. Not having that knowledge, through other's experiences and training, could have led to poor decisions and a different outcome.

Lt. McKelvey flies with VFA-86.



A Loud Bang
AND FLYING PAPERS

By Lt. John Cooke

[The author is an aviator and an aerospace physiologist. The italicized portions of this "there I was" article are his aeromedical comments.]

We were tasked for a long-range COD flight from Rota, Spain, to support the carrier, which was supposed to be 150 miles east/northeast of the Azores, a small island chain in the Eastern Atlantic. The flight would be at the outer limits of our C-2 range. Knowing we would be tight on gas, we had coordinated with the boss before our launch to make sure they would be on PIM (position-of-intended movement), and we checked the weather in the Azores. We left on a bingo-climb profile to make sure we'd get the most out of our fuel load.

The winds proved more favorable to cruise at FL280, and we kept cabin pressure just shy of 8,000 feet. About two-and-a-half hours into the flight, I heard a loud bang; loose papers and debris flew around the cockpit, and my ears instantly hurt and then popped. A glance at the cabin altimeter confirmed my suspicions: We had experienced an explosive decompression.

Hypoxia

I knew my first job was to counter my impending hypoxia.

To understand hypoxia, one first must understand respiration, which adds O2 and removes CO2 from the body via hemoglobin molecules. The gaseous exchange actually takes place through little grape-like sacks called alveoli in the lung via simple diffusion: O2 diffusing from the alveoli into the blood and CO2 from the blood into the lungs. When the O2 partial pressure is not enough to permit adequate diffusion, hypoxia ensues. Individuals experience their own combination of symptoms that do not vary drastically from episode to hypoxic episode. That's why the physiology program uses hypobaric chambers and reduced-O2-breathing-device (ROBD) trainers to allow aviators to identify their specific symptoms in a controlled environment. Some of the most common signs and symptoms of hypoxia include cognitive impairment, fatigue, visual disturbances, and cyanosis (blueness of fingernails/lips). OPNAV 3710 states that for flight between FL250 and FL350, "Oxygen shall be immediately available. Helmets shall be worn with an oxygen mask attached to one side or an approved quick-donning or sweep-on mask properly adjusted and positioned for immediate use."

Because COD crews usually don't wear oxygen masks during normal operations below FL250, I forgot about the OPNAV requirement. I had to scramble to put on my mask.

The time of useful consciousness or TUC (the period from the exposure to an O2-deprived environment, to the time when useful function is lost) at FL280 is roughly three minutes. This time was shortened for us, as TUC is cut in half for rapid decompressions. Still, with more than a minute, I had no need to panic.

The guys in the back were the next thing I needed to worry about. The C-2 employs the same type of dangling masks the airlines use. These masks automatically had deployed and appeared to be operating as advertised by the illumination of the PASS OXYGEN ON advisory light. For the moment, I wouldn't have to worry about the health of my passengers or aircrew.

Trapped Gas

As I noted earlier, my ears were killing me until they popped.

Boyle's law states that with a constant number of molecules at a constant temperature, volume is inversely proportional to pressure.

When our cabin pressure instantaneously went from 8,000 feet to 28,000 feet, everything in our plane that could act like a balloon did.

There is a trapped-gas space behind the eardrum, called the middle ear.

Normally, gas in this space is vented through the Eustachian tube. If this tube is blocked or swollen because of an illness, air may become trapped in this space, causing an ear block. In severe cases, the eardrum may rupture, causing severe pain. Similarly, air must equalize in the sinuses. Old or bad dental work or abscesses can form gas-filled spaces in the teeth that also can expand with altitude. Aviators are checked annually during flight physicals for proper dental hygiene, but passengers, who often are non-aviators, are not held to the same standard.

The GI tract also can cause problems when varying quantities of air that is ingested or produced in the digestive tract is not properly vented through one of the two natural ports. As the volume of air expands, pain and discomfort can become unbearable. Ultimately, the person might succumb to the vaso-vagal response, which is an automatic reflex of the autonomic nervous system that causes the heart to slow down (bradycardia) and the blood vessels in the legs to dilate. The result is the heart puts out less blood, the blood pressure drops, and the blood that is circulating goes to the legs, rather than the head. Ultimately, the brain is starved of O2, and the person faints.

Nearly instantaneously my ears cleared, but if I or any of the passengers and aircrew had been flying with a cold, we could have been in trouble. When the middle ears, sinuses, teeth, and gastro-intestinal tracts of all on board quickly expanded, we were fortunate we did not have any trapped-gas medical emergencies.

Decompression Sickness (DCS)

DCS is related to the specifics of Henry's Law, which states: The amount of gas dissolved in a solution varies directly with the partial pressure of the gas over the solution. Normally, gaseous-pressure differentials in the body are equalized by breathing. For instance, a slow ascent allows the nitrogen that was dissolved within solution to be off-gassed through the lungs, with little or no bubble formation. A rapid ascent can result in bubble formation. Nitrogen bubbles are problematic because they can block blood flow and cause other types of physiological reactions that can interfere with body functions. Commonly referred to as the "bends," decompression sickness is deadly if not properly addressed. To avoid DCS, OPNAV 3710.7 states that flight personnel shall not SCUBA within 24 hours of flying.

Over the Atlantic, I knew my aircrew hadn't been scuba diving, so they would be fine, but I had no idea if my passengers had been on the bottle. Fortunately, 85 percent of the DCS cases resolve themselves simply by the increased pressure associated with descending out of altitude, which is what I did.

We immediately descended to 10,000 feet to conserve our O2; 3710 dictates that above a cabin pressure of 10,000 feet, you have to be on supplemental O2. On the way down, I asked my crew, "What happened?"

My aircrewman, who had not been on ICS, said that during his walk-around, he had discovered a pinhole leak from a hydraulic line (2,000 psi) that was hitting an environmental-control-system line. To avoid a catastrophe, he closed the fuselage bleed-air shutoff valve, which secured the pressurization system and sent us from 8,000 feet to 28,000 feet nearly instantaneously.

This all happened when we were trying to pick up strike, marshal, tower, or anybody. Mom didn't have her TACAN on, and I could not contact anybody on the normal frequencies. With the winter winds being too strong in our face, we no longer could make it to Lajes at 10,000 feet. Our nearest divert was Lisbon, Portugal, about 400 miles away. Unfortunately, we did not have the gas to make that leg, either. We were now blue-water ops but had no ship on which to land.

I climbed to 13,000 feet, because there is a NATOPS blurb that states, "When oxygen is not available to other occupants, flight between 10,000 feet and 13,000 feet shall not exceed three hours. and flight above 13,000 feet is prohibited." Flying at 13,000 feet bought us some time but didn't buy us communications with mom. We headed toward Europe and started to climb; I figured it was better to land with a cabin full of hypoxic, asleep passengers, than to ditch in the cold Atlantic.

As we climbed higher, we picked up an E-2C on guard frequency. The carrier was about 125 miles off PIM but still closer than Lisbon. We rerouted and eventually got to the ship with an uneventful straight-in.

This scenario shows that threats associated with rapid decompression are not limited to hypoxia. I did not have a game plan for all the contingencies and was not ready for the situation.

Lt. Cooke is with Aviation Survival Training Center, Norfolk.

Lieutenant Scott Purcell, an instructor with HT-28 at NAS Whiting Field, Fla., was on a TH-57B day flight. Following a simulated engine failure to a landing site where a precautionary landing could be made, Lt. Purcell took the controls from the student and rotated the twist grip to full open. The engine indications were normal, but he noted an audible anomaly. To diagnose the problem, he increased the collective but observed the torque remained at eight percent, with the twist grip full open and collective applied.

With the field made and no other available suitable landing site, he continued the autorotation to a landing, rather than risk a waveoff. After completing the full autorotation into the unprepared landing zone, he completed an emergency shutdown to preclude the possibility of a sprag-clutch reengagement. Maintenance analysis revealed a clogged fuel nozzle.

BRAVO Zulu

Lieutenant (junior grade) Oldenborg, a SERGRAD flight instructor with VT-9 at NAS Meridian, Miss., was on a T-45C day airway navigation flight with a student naval aviator.

During a practice precision approach to runway 27 at NAS Jacksonville, Fla., Ltjg. Oldenborg's student received landing clearance from the air-traffic controller. At the approach decision height of 200 feet AGL, Ltjg. Oldenborg saw a vehicle driving on the landing runway centerline at the touchdown point. He immediately took control of the aircraft, executed a wave-off, and informed tower of the vehicle incursion.

Lieutenant Commander Dewaine Barnes, a flight instructor with VT-86 at NAS Pensacola, Fla., and his student were on a T-45C day section weapons flight. While operating on the initial portion of visual-route 1021, at 500 feet and at 360 knots, the aircraft had a bird strike.

The bird penetrated the cockpit, damaged the canopy and hit LCdr. Barnes. Despite the force of the impact, he immediately initiated a climb, departed the route structure, and coordinated NATOPS and recovery procedures with his wingman. After a visual inspection by his wingman, he made an uneventful arrested recovery at NAS Pensacola.

Second Lieutenant Bryan Tannehill, USMC, a primary flight student with VT-2 at NAS Whiting Field, Fla., was on his first T-34C, aerobatic-solo flight. About 10 minutes after departing home field, he noticed a fuel split of 20 pounds, with 370 pounds in the left tank and 390 pounds in the right.

Following NATOPS procedures, he put the aircraft in a slight slip, with the ball displaced to the left, and continued his flight. A few minutes later, the right tank still had 390 pounds, but the left tank indicated less than 300 pounds. He had a faulty gauge or a severe fuel leak. Although he saw no evidence of a fuel leak, he opted to make a precautionary-emergency landing. He climbed to dead-engine-glide altitude and intercepted the emergency-landing profile. While turning crosswind, the left fuel quantity had decreased to 140 pounds.

After landing, the crash crew did a visual inspection but couldn't find the fuel leak, so he taxied clear of the runway and shut down. Maintenance later determined that moisture in the electrical connection to the fuel-quantity indicator resulted in the erroneous readings.

Ensign Asim Aljumah, Royal Saudi Naval Force, a primary flight student with VT-2, was on a day, aerobatic solo flight from NAS Whiting Field, Fla.

About 30 minutes into his second T-34C solo flight, Ens. Aljumah completed a barrel roll and saw a flashing master-caution light. He scanned the caution-advisory panel and saw the engine chip light was illuminated. In accordance with NATOPS emergency procedures, he reduced power from 1,015 to 850 foot-pounds torque and climbed to within dead-engine glide altitude of a nearby airfield. He continued his scan for secondary indications of impending engine failure.

At 8,000 feet, he reduced power and intercepted the emergency-landing profile at Navy Outlying Field Barin. Approaching the 90-degree position, he realized he was low and increased power to regain profile. He landed and conducted an uneventful engine shutdown on the runway.

Maintenance determined that metallic fuzz on the chip detector had caused the chip light.

Lieutenant Phillip Smith, a T-6A Texan II flight instructor with VT-4 at NAS Pensacola, Fla., was instructing a student naval flight officer on a roundtrip, instrument-navigation flight to Tallahassee.

After level off at 16,000 feet on the return leg, they experienced a power-management-unit (PMU) failure. They immediately completed the NATOPS emergency procedures. After resetting the PMU, aircraft-torque indications were erratic. Lieutenant Smith turned off the PMUs and prepared to "land as soon as practical," per NATOPS procedures.

Although he couldn't set the recommended four-to-six-percent torque because of the absence of torque readings with the PMU off, Lt. Smith made a precautionary-emergency landing into the regional airport at Dothan, Ala.

Decision Making
Assertiveness
Mission Analysis
Communication
Leadership
Adaptability/Flexibility
Situational Awareness

CRM Contacts:

Naval Aviation Schools Command
Crew Resource Management
181 Chambers Ave., Suite C
Pensacola FL 32508-5221
(850) 452-2088/5567 (DSN 922)
Fax (850)452-2639
https://www.netc.navy.mil/nascweb/crm/crm.htm

LCdr. Jeff Alton, Naval Safety Center
(757) 444-3520, Ext.7231 (DSN 564)
jeffrey.alton@navy.mil

I THINK WE'RE ON Fire!

By Lt. Conrad Bicknell and Lt. Kevin Cahill

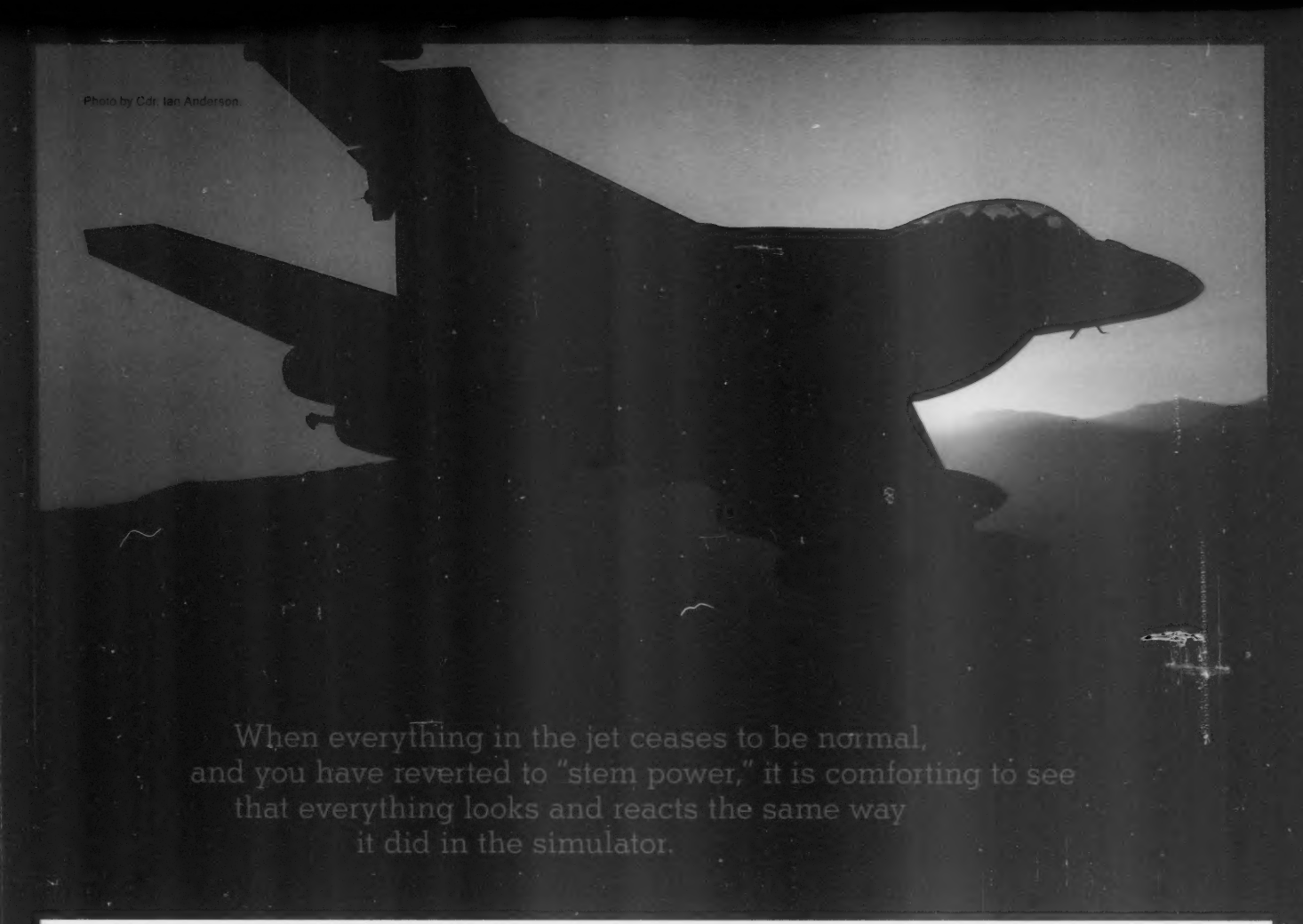
Another beautiful, sunny, fall day in China Lake, Calif., and I was scheduled to fly an afternoon range event at Nellis AFB. I had gone to bed early the night before to read, but sleep quickly came after only a page or two, and I got about nine hours of sleep. In the morning, I had a healthy breakfast and left for work, feeling positive, well-rested, and ready for a great EA-18G OpEval test hop.

I arrived at the squadron around 0730 and worked on various projects on my "to do" list. I then joined my weapon-system officer (WSO) for the 1030 phone-coordination brief, which went on time and without any notable issues. We felt comfortable with our single-ship mission and walked on the jet about five minutes late for our 1300 launch.

In Vampire maintenance, we learned that along with a jet swap for maintenance reasons, we had a full bag of 20,000 pounds of fuel, instead of only the internals we had briefed for our short ferry flight. While suiting up, we discussed alternative ways to burn down fuel before landing. We launched on time in a fully, mission-capable jet. Because we were fat on gas, I left the jet in afterburner (AB) until level at FL190. The transit to Nellis went smoothly.

Upon check-in with the controllers at Nellis, we asked for permission to delay at our present location, so we could maneuver and burn down to an acceptable weight. We were cleared for an area about 25 to 35 miles from the field, where we had room to maneuver. I pushed the throttles into afterburner and accelerated for the G-warm at about 15,000 feet MSL. The G-warm and inverted check were normal.

I reengaged AB, accelerated to about 410 knots, and started a left 4 to 5G turn. After about 40 to 60 degrees of turn, I heard a



When everything in the jet ceases to be normal, and you have reverted to "stem power," it is comforting to see that everything looks and reacts the same way it did in the simulator.

"deedle, deedle" (0m+00s), followed by "Betty's voice" yelling at me, "Bleed air left. Bleed air left," with the associated bleed-air-warning light.

I remember thinking, "This sucks, and it can lead to a fire," as I leveled the jet to normal 1G flight and tried to understand what was happening. At this juncture, the left fire-warning light (0m+03s) came on, as well as the "Engine fire left, engine fire left" aural caution. I laughed nervously to myself, "Maybe this is just Hornet warning lights gone crazy."

My inner monologue reminded me, "When this happens in the simulator, it's time to prioritize the fire and forget the bleed-air issue. Fire trumps bleed and will solve the bleed-air issue by default."

Here's where the fun began: I realized how serious this really was when my WSO suddenly yelled to me over ICS, "I see smoke, dude; I think we're on fire!"

Panic started to rush into my thoughts, as I realized with clarity this was no faulty warning-light system. I began the boldface: The throttle is off (0m+08s), fire light is pushed (0m+11s), the hook comes down—out of order, and the fire light is pushed (0m+21s).

Realizing I had dropped the hook out of order in the boldface, I took a breath and redid my boldface out loud over ICS, touching each item and verbalizing to my WSO each completed item. I glanced at the left digital—display indicator (DDI), as it filled with all kinds of cautions and advisories.

Instinct took over: "Point the nose at the field; we're still flying. What do we need to do next for a safe, expeditious, single-engine landing?"

We were single-engine, about 14,000 feet, in a 270 drag-count airplane, and still had about 17,000 pounds of fuel—about 9,000 pounds over the recommended single-engine-landing weight. We declared an emergency and requested assistance from any other aircraft who visually could confirm the fire was out and tell us what damage it had caused. Nobody answered our calls to inspect us.

My WSO said, "Start thinking about the single-engine checklist." As I asked a couple more times for an airborne inspection over the radio, my WSO suggested that maybe the inspection wasn't our priority: We needed to land. I concurred.

Several thoughts went through my head, "Heavy gross weight… single-engine… high-density-altitude divert field (over 5,000 feet)… is the fire still going?… should I dump? I don't want to emergency jettison the ALQ-99 pods and external fuel tanks unless I can't keep the jet flying… need to land ASAP… don't panic… have my WSO get the book out and back up the procedures… Oh $#@%!"

I realized I needed AB to comfortably keep the jet flying, and I still hadn't put down the gear and flaps. This situation was not good.

We switched to tower. They were a great help and immediately cleared us to land. They told us the arresting gear was rigged, and the fire crews were ready.

I dropped the gear and flaps. As we started the single-engine-landing procedures, AB was a must to maintain safe-flying qualities; this made us nervous. The fire plume from AB wasn't comforting because we didn't know why we were on fire. We needed to lighten the jet.

We had a brief discussion about the risk of dumping versus landing heavy. We were concerned about dumping fuel after just having been on fire, but the fire appeared to be out. We decided to dump, so I accelerated to 245 knots in level flight before bringing the right motor out of AB to start dumping. The bingo bug was set to 8,000 pounds, and I started a right turn into the good motor about eight miles south of the field. The weight adjustment went uneventfully and, to our pleasant surprise, as the jet got lighter, the flying qualities improved.

Coming out of the 360-degree turn, we were lined up on about an eight-mile final. "Go over the landing checks again," I called to my WSO; "read out the single-engine-approach procedures."

We completed the single-engine-landing-checklist procedures. The glideslope was difficult to maintain, with only one engine at a 5,500-foot field elevation, and about 75 degrees F outside-air temperature. The jet required constant attention to stay ahead of the power curve; however, the approach was uneventful.

I flew the jet all the way to touchdown for an arrested landing. Good trap. I thought, "Get out, and get out fast!"

I SHUT DOWN THE REMAINING ENGINE, we unstrapped, and quickly got out by sliding down the left wing, trailing-edge flap. We finished with two successful tuck and rolls, as the fire trucks rolled up. No fire was coming out of our jet, but it smelled burnt. My knees were shaky.

Several learning points came out of this event. First, simulator training for compound emergencies is invaluable. When everything in the jet ceases to be normal, and you have reverted to "stem power," it is comforting to see that everything looks and reacts the same way it did in the simulator. Second, crew-resource management (CRM) helped save the crew and a valuable national asset. When I did a step out of order on my boldface, by going back and talking out loud with my WSO, I got my mind back on track and verified for us that we had vanquished the closest alligator to the canoe. Third, doing boldface quickly is important, but remember to stop and think about the repercussions of your actions. NATOPS knowledge is no substitute for common sense.

Discussion in the cockpit was key to completing the steps necessary to get our aircraft on deck. CRM should be discussed in reference to emergency procedures before every flight to make sure all aircrew are on the same page before ever getting into the aircraft.

Lts. Bicknell and Cahill fly with VX-9.

Mishap-Free Milestones

VAW-115	23 years, 10 months	49,256.9 hours
VAW-113	42 years	84,000 hours
VAW-121	42 years	80,000 hours
HSL-48	3 Years, 9 Months	20,000 hours

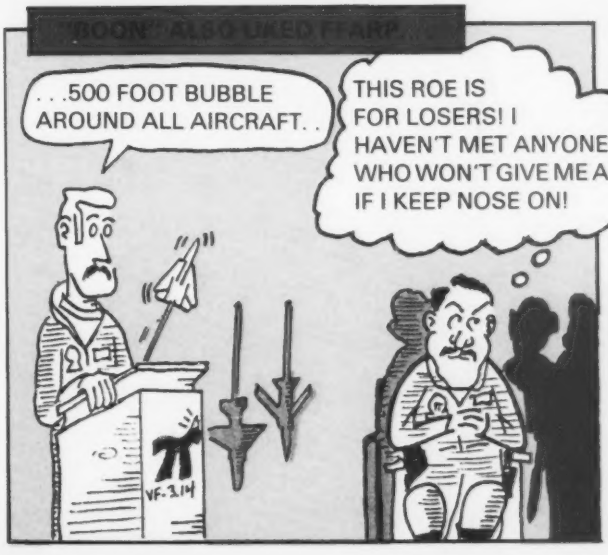
BROWNSHOES IN ACTION COMIX

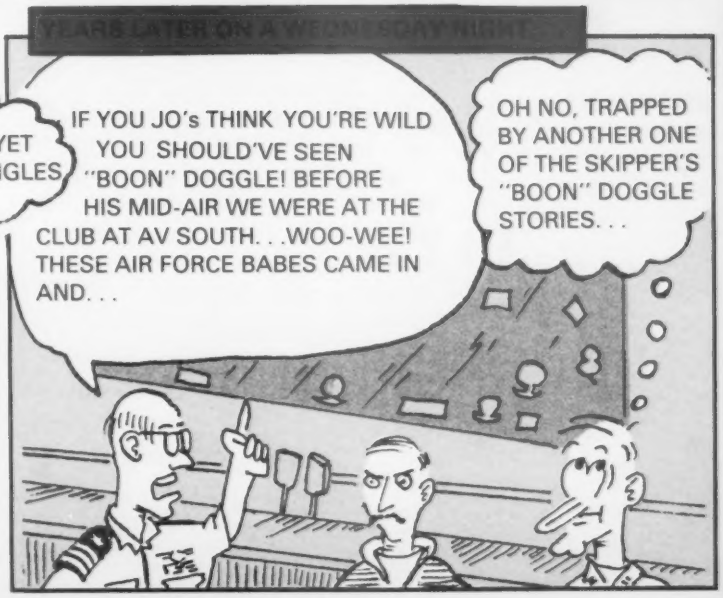
"THE KIND REAL AVIATORS LIKE"

SQUADRON IN THE SPOTLIGHT

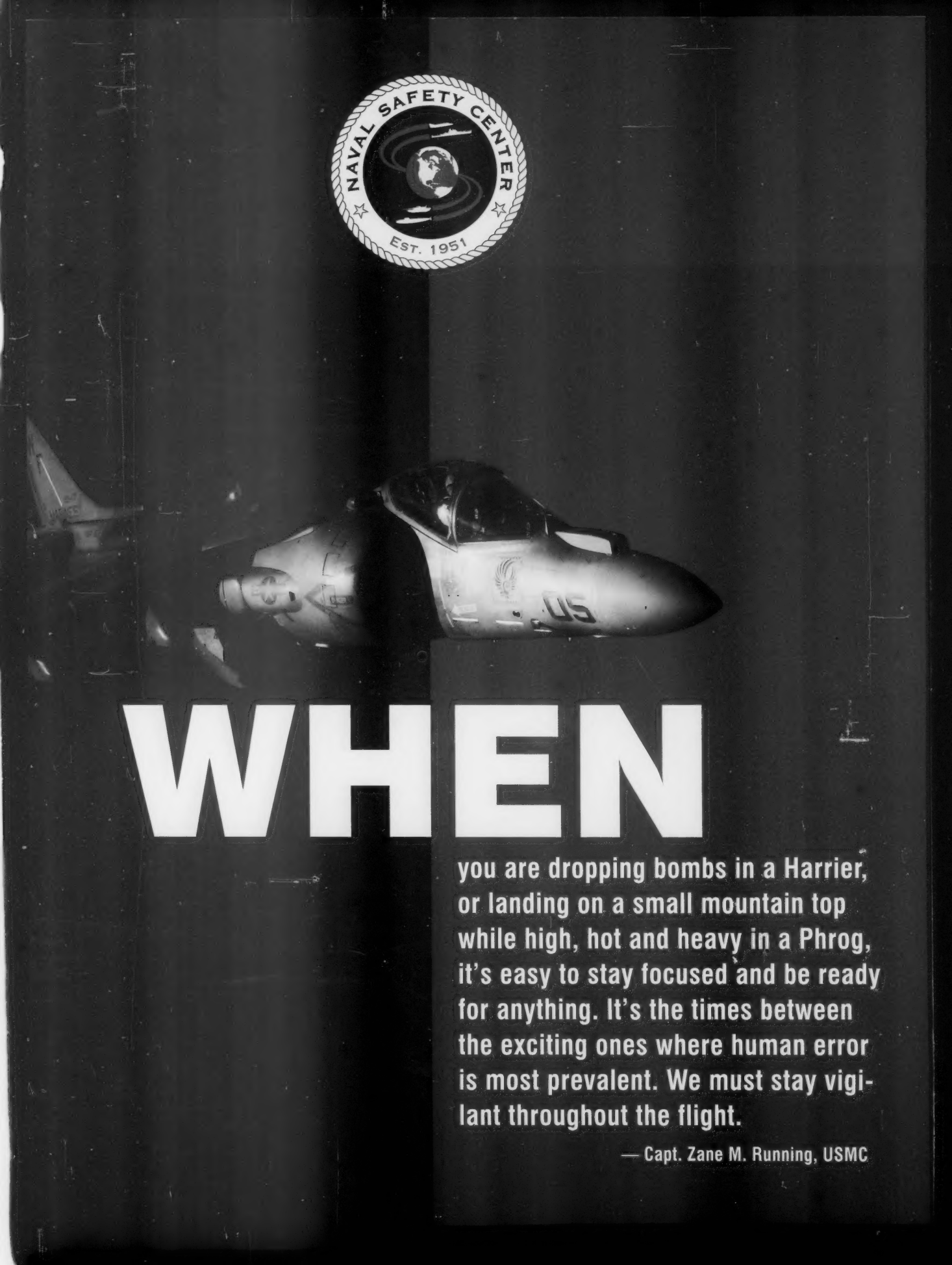
THE ORIGIN OF VF-3.14 IS SKETCHY, BUT IT IS GENERALLY ACCEPTED THAT IT STARTED IN 1946 AS DET 3.14 OF THE 103RD TRANSPORT WING. THEN KNOWN AS THE "DIGIT LIFTERS" FLYING THE C-47, THE SQUADRON ACHIEVED RECOGNITION FOR BEING "PRETTY GOOD FRIENDS" WITH SOME OF THE PILOTS WHO FLEW DURING THE BERLIN AIRLIFT. (RECORDS SHOW THAT THE 'DIGIT LIFTERS' WERE TASKED WITH THE AIRLIFT BUT COULDN'T MAKE IT DUE TO MISUSE OF OPTAR.)

IN 1962, DURING THE TRANSITION TO C-130's, THE SQUADRON ACCIDENTLY RECEIVED F-8 "CRUSADERS" AND RATHER THAN CAUSE A LOT OF TROUBLE . . . THE CO, WITH THE AID OF HIS ENTERPRISING COFFEE MESS OFFICER (NEW "ZAPPERS" WITHIN 48 HOURS), REDESIGNATED THE SQUADRON VF-3.14 "THE FIGHTING PI'S" (SUBMITTED BY LT LANCE "DANGER-BOY" JONES, SQUADRON PAO)


. . .500 FOOT BUBBLE AROUND ALL AIRCRAFT. .
THIS ROE IS FOR LOSERS! I HAVEN'T MET ANYONE YET WHO WON'T GIVE ME ANGLES IF I KEEP NOSE ON!
VF-3.14


IF YOU JO's THINK YOU'RE WILD YOU SHOULD'VE SEEN "BOON" DOGGLE! BEFORE HIS MID-AIR WE WERE AT THE CLUB AT AV SOUTH. . .WOO-WEE! THESE AIR FORCE BABES CAME IN AND. . .
OH NO, TRAPPED BY ANOTHER ONE OF THE SKIPPER'S "BOON" DOGGLE STORIES. . .

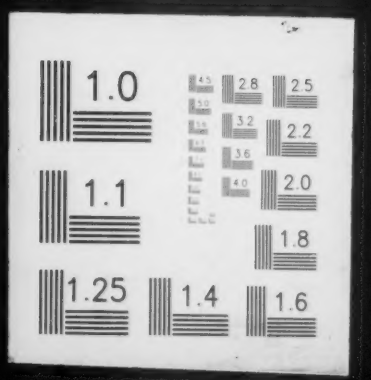
ROE. . .BRIEF IT. . .FLY IT. . .LIVE IT!



WHEN

you are dropping bombs in a Harrier, or landing on a small mountain top while high, hot and heavy in a Phrog, it's easy to stay focused and be ready for anything. It's the times between the exciting ones where human error is most prevalent. We must stay vigilant throughout the flight.

— Capt. Zane M. Running, USMC


1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0